German psych verbs
– insights from a decompositional perspective

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Zusammenfassung

Diese Arbeit beschäftigt sich mit psychologischen Verben, d.h. Verben, die dadurch charakterisiert sind, dass eines ihrer Argumente Träger eines psychischen Prozesses ist, die thematische Rolle Experiencer aufweist. Diese ‚Psych-Verben' nehmen seit mindestens 30 Jahren eine prominente Stellung in linguistischen Diskussionen zu Syntax, Semantik und deren Schnittstellen ein und werden häufig als eine besondere Verbklasse mit spezifischen (Psych-) Eigenschaften angesehen. Dabei ist nicht nur die Analyse dieser Verben, sondern bereits ihre korrekte empirische Charakterisierung Auslöser starker Kontroversen in der Literatur. Der erste Teil dieser Arbeit widmet sich deshalb der Untersuchung der empirischen Eigenschaften von Objekt-Exp-Verben wie Agentivität, aspektuelle Eigenschaften, Passiv sowie ihrem Verhalten in Bezug auf eine Reihe anderer grammatischer Phänomene. Ein Fokus liegt dabei auf dem Vergleich von Verben, die basierend auf derselben Wurzel unterschiedliche Formen bilden wie z.B. *ärgern–verärgern–sich ärgern*, *wundern–verwundern–sich wundern* etc. Die Ergebnisse der empirischen Untersuchung zeigen, dass weder ObjExp-Verben noch Experiencer eine homogene Gruppe mit kohärenten Eigenschaften darstellen. Folglich können Psych-Verben nicht als eine einheitliche (besondere) Gruppe von Verben analysiert werden, da ihre Eigenschaften zu unterschiedlich sind und sie vielmehr in verschiedene Verbgruppen fallen. Im theoretischen Teil der Arbeit wird deshalb eine dekompositionelle Analyse im Paradigma von Distributed Morphology vorgeschlagen, die die unterschiedlichen Gruppen von Psych-Verben als solche analysiert und ihre Eigenschaften auf der Basis allgemeiner grammatischer Prinzipien (aspektuelle Eigenschaften sowie Präsenz/Absenz eines externen Arguments) erklärt, und besonders die stativen Kausativa diskutiert. Als Resultat muss konstatiert werden, dass ‚Psych-Verben' als grammatisch relevante Gruppe nicht existieren, sondern diese Verben vielmehr unterschiedlichen bekannten Verbmustern folgen.

Abstract

This thesis is concerned with German psychological verbs, i.e. verbs characterized by the fact that one of their arguments is associated with a psychological process bearing the thematic role Experiencer. These psych verbs have been prominent in linguistic discussion on syntax, semantics, and their interfaces for at least 30 years, and are often considered to form a special group of verbs with specific 'psych properties'. Not only the theoretical analysis but also the correct characterization of their empirical properties is a matter of controversy in the literature, and no consensus has been established with respect to either. Therefore, in the first part of this thesis, the empirical properties of object experiencer verbs such as agentivity, aspectual properties, passive, and the behaviour of these verbs with respect to a number of other grammatical phenomena are examined. Special focus is placed on alternating verbs formed on the basis of the same Root, such as e.g. *ärgern–verärgern–sich ärgern*, *wundern–verwundern –sich wundern*, etc. The results of the empirical analysis show that neither ObjExp verbs nor experiencers form a homogeneous group with coherent properties. On the contrary, these verbs fall into several different groups of verbs with clearly different properties. Consequently, psych verbs cannot be analysed as one (special) group of verbs. The theoretical part of this thesis therefore puts forward a decompositional analysis couched in the paradigm of Distributed Morphology, which analyses the different psych verbs as different groups of verbs, and explains their properties as the consequence of general grammatical principles (their aspectual properties, and the presence/absence of an external argument), not special psych properties. The discussion of stative causative ObjExp verbs plays a major part. As a result, the conclusion has to be drawn that 'psych verbs' do not constitute a grammatically relevant (special) group of verbs, but that these verbs follow different general patterns known from the study of other verbs.

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List of abbreviations

ACC	accusative
AUX	auxiliary
CAUS / CAUSE	causative
CP	complementizer phrase
DAT	dative
DEF	definite
ELA	elative
EXP	experiencer
EXPL	expletive
FOC	focus
FOCPRTL	focus particle
GEN	genitive
IMP	imperative
INCH	inchoative
INF	infinitive
MODPRTL	modal particle
NOM	nominative
PART	partitive
PASS	passive voice
PAST	past
PERF	perfect
PL	plural
POSS	possessive
PP	prepositional phrase
PPERF / PASTPART	perfect participle / past participle
PRESPART	present participle
PRS / PRES	present tense
REFL	reflexive
REP	repetitive reading
REST	restitutive reading
SG	singular
SM	subject matter of emotion
THV	theme vowel
TOP	topic
VERBPRTL	verb particle

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Chapter 1 : Introduction

Psychological verbs (henceforth: psych verbs) have been prominent in syntax-semantics discussions for decades, at least since the 1970s (see Postal 1970, 1971; McCawley 1976; Brekke 1976; etc.). Yet clear definitions are hard to come by, and quite diverse verbs have been summarized under the umbrella term 'psych verbs', or 'experiencer predicates' in the literature. A working definition for the group of verbs this thesis deals with could follow along the lines in (1) taken from Landau (2010):

(1) "A psych verb is any verb that carries psychological entailments with respect to one of its arguments (the experiencer). A psychological entailment involves an individual being in a certain mental state" (Landau 2010: 137, note 2).

This thesis will only be concerned with the verbs usually referred to as psych verbs in the 'narrower sense' of the definition, i.e. verbs which make reference to an individual being in, or getting into a certain mental state, to the exclusion of, for instance, perception verbs, or mental activity verbs like *think*, *believe*, etc., which are sometimes also subsumed under the label psych verbs. The verbs referred to as psych verbs here are those which are usually classified into three different groups depending on how they realize the individual associated with the mental state as in (2-4) following Belletti & Rizzi's (1988) seminal work:

(2) **Class I: Subject-experiencer** — **NOM**$_{EXP}$ – ACC
Mary$_{EXP}$ fears John/ the noise.

(3) **Class II: Object-experiencer** — NOM – **ACC**$_{EXP}$
John/ The noise frightens **Mary**$_{EXP}$.

(4) **Class III: Object-experiencer** — NOM – **DAT**$_{EXP}$
John/ The book appeals **to Mary**$_{EXP}$.

While subject-experiencer (henceforth: SubjExp) verbs realize the individual which is in a certain mental state as subject, object-experiencer (henceforth: ObjExp) verbs realize it as either accusative- or dative-marked object (in accusative languages like German, English, Spanish, or Italian, which are at the centre of this thesis). This behaviour that 'doublets' of verbs which express the same emotion, or at least closely related emotional concepts like *fear–frighten* can have such an inverted realization of the (apparently) same participant, or thematic role in two different syntactic positions, has drawn attention to these verbs, since these observations pose

problems for approaches to argument linking based on thematic hierarchies, or otherwise well-established general linking rules such as Perlmutter & Postal's (1984) *Universal Alignment Hypothesis*, or Baker's (1988) *Uniformity of Theta Assignment Hypothesis*. This problem set has become known as the 'linking problem', and dominated the first wave of research on psych verbs as did observations about the peculiar properties of these verbs, such as most famously 'backward binding', *inter alia*. While different strategies have been developed to cope with the 'linking problem', more recently, a second problem set connected to psych verbs has attracted more attention, and has dominated research in recent years: the diverse and flexible empirical behaviour these verbs show, especially Class II ObjExp verbs, e.g. with respect to their aspectual properties, passivization, as well as features such as agentivity, causation, etc. The challenge this second problem set poses is two-fold: firstly, to establish an adequate level of empirical description and classification of these verbs, since opinions are highly divided even on the descriptive side of this question. And, secondly, to build an analysis of these verbs which can account for the observed diverse empirical behaviour (and the linking problem).

From very early on, a dominant position in the attempts to deal with the problems psych verbs pose has always been to consider these verbs to be a 'special' group of verbs with 'special psych characteristics and properties'. Consequently, the explanation of their behaviour often draws on 'special' mechanisms as well, since it is argued that psych verbs cannot be dealt with on a par with standard non-psych verbs. The explicit or implicit reasoning behind such approaches is basically that psych verbs constitute a (more or less) homogeneous group of verbs defined by their experiencer argument, whose behaviour can be traced back to the 'special' status of the experiencer. In other words, verbs are 'psych verbs' because of the thematic role they assign to one of their arguments. Since verbs are defined as psych verbs by this semantic criterion, they are treated as a homogeneous group of verbs, as it is assumed that this is the common source of their 'specialness', which defines their status as 'psych verbs'. The challenge under such a view is consequently to find a way to account for the behaviour of this *whole group* of verbs defined in such a semantic way. Such approaches, however, face severe problems especially in dealing with the second problem set of the diverse behaviour of psych verbs as will be shown. It seems that the behaviour of different forms or readings of ObjExp verbs are too different to be accounted for under an approach treating psych verbs, or at least ObjExp verbs to be one (homogeneous) group of verbs. A first clear indication of this is the exceptionally high number of studies recently published on that topic which offer quite conflicting solutions (see discussion in 2.2), and the long series of debates on these issues (see Anagnostopoulou 2008 for a summary). What this shows is that up to this very point, no such approach has been able to

account in a completely satisfactory way for the diverse behaviour of ObjExp verbs. I will argue that this does not reflect that psych verbs are 'too special' to be accounted for as has been claimed, but, to the contrary that this shows that something about the 'specialness' approach and the definition of psych verbs based on the thematic role criterion is problematic: I will provide empirical evidence in this thesis that the fundamentally important insight is that psych verbs, and especially ObjExp verbs, are not as homogeneous a group as usually implicitly or explicitly assumed in most approaches. Consequently, the attempt to account for the behaviour of ***all*** ObjExp verbs as a homogeneous group inevitably has to fail since it is the attempt to account for the behaviour of a diverse group of ***different types*** of verbs with different properties.

1.1. Main hypothesis and research questions

The main objective of this thesis is therefore to provide an empirical description as well as theoretical syntactic analysis of the controversially discussed group of psych verbs for German, above all ObjExp verbs. There is hardly any consensus in the literature, neither cross-linguistically nor for German, with respect to ObjExp verbs: even the description of their empirical properties is not uncontroversial, not to speak of their classification and proper analysis. The debate is highly fragmented and divided by disagreement, as pretty much every kind of possible empirical characterization and analysis has been proposed for these verbs. Therefore, the task in dealing with psych verbs is always two-fold, which also reflects the main goals of this thesis: firstly, an empirical description of the properties of ObjExp verbs, especially in comparison to other psych and non-psych verbs, is needed to get a clearer picture and better understanding of their empirical behaviour and properties. This should then, in a second step, serve as the basis for a theoretical analysis of these verbs, which can account for the empirical patterns observed. Consequently, there are two central research questions for this thesis, an empirical one and a theoretical one:

Q1 (empirical): How can the empirical behaviour of psych verbs, especially ObjExp verbs, with respect to agentivity, passivization, event structure properties, etc. be properly described and characterized, and how can these verbs consequently be classified accordingly?

Two sub-questions to that are:

(i) Are there any meaningful grammatical regularities and principles which condition the behaviour of ObjExp verbs?

(ii) Are psych verbs a homogeneous group, or are there significant empirical differences between different (groups of) psych verbs, which show that they fall into different groups of verbs?

Sub-question (i) is the first to be addressed given the claims to the contrary by Klein & Kutscher (2005), and Grafmiller (2013), especially the latter arguing that there are no meaningful grammatical differences but only idiosyncratic, conceptual ones, which can account for observable empirical differences between ObjExp verbs.

Q2 (theoretical): How to account for the observed empirical behaviour in a theoretical analysis of psych verbs? I.e. how to provide an appropriate analysis of psych verbs which captures the empirical facts, and can explain them?

Two related sub-questions to that are:

(i) Do psych verbs constitute a 'special' class of verbs, i.e. do we need 'special' tools for their analysis, which are peculiar to these verbs?

(ii) How can the different analyses proposed in the literature account for the empirical proposals?

In answering these questions, I will provide further evidence for the claim by Iwata (1995), Bennis (2004), Petersen (2016), and others, that psych verbs are in fact not 'special' in the sense that they involve totally different grammatical structures or principles, which cannot be found in 'non-psych' verbs, but that their behaviour can be explained by principles independently motivated in the grammar. The guiding hypothesis based on previous work such as Arad (1998a, 1998b), and Alexiadou & Iordăchioaia (2014b) will be that psych verbs are characterized by the fact that they can be ambiguous between different regular patterns, and that their behaviour can be explained by principles independently motivated in grammar. Aspectual differences are crucial for these alternations, since the different forms or readings are distinguished by different aspectual properties. Consequently, the major task under such a hypothesis is to identify the patterns and different verb classes psych verbs represent. The key insight to such an approach is that psych verbs, and especially Class II ObjExp verbs, do not form a homogeneous group. In a theoretical approach like the decompositional one assumed here (see 1.2) these patterns can be explained straightforwardly since event structure differences are indicative of different underlying syntactic structures, given the assumption that event structure is read off the syntactic structure. Especially, one empirical pattern of alternating

German psych verbs formed with the same Root will be discussed to illustrate this point. On the basis of the empirical properties of these verbs, I will reject the view that all 'experiencer' arguments as such are special. I will show that the crucial point is that ObjExp verbs in German but most probably cross-linguistically, are not a homogeneous group, but split into different groups of verbs with quite different properties. Consequently, arguments referred to as 'experiencers' are far from being a homogeneous group. Broadly speaking this represents one aspect of the debate about the question of how meaningful the concepts traditionally referred to as semantic roles are (see e.g. Williams 2015). It will be shown that what has been labelled as 'experiencer role' in fact represents different 'thematic relations' (see Petersen 2016 for a more detailed discussion on the thematic role aspect), which crucially depend on the aspectual properties of the predicate, i.e. the syntactic structure a Root is merged with. This is well in line with a Configurational Theta Theory, which assumes that thematic roles do not play a role in syntactic derivations, since they are only assigned as interpretation rules at CI-interface (Conceptual-Intentional Interface, see Chomsky 1995). However, as the empirical analysis will demonstrate not all 'experiencer' arguments behave alike. Evidence from empirical diagnostics will be provided which shows that only stative psych verbs have arguments which are 'experiencers' in a meaningful sense, i.e. behave differently from other canonical internal objects. Crucially, however, in nonstative ObjExp verbs 'experiencer' arguments behave in many ways similar to canonical internal direct objects of change-of-state verbs. This will be accounted for by an analysis which assumes that those different forms have different underlying syntactic structures which can explain the different 'theta roles' involved as well as the aspectual difference. While I will use the traditional terminology of 'psych verbs', and 'experiencers' for the sake of convenience, the results of this study provide further evidence that these terms do not have much theoretical meaning beyond the descriptive labels they are, and raise further problematic issues for theta role based accounts of argument structure.

A further aim of this thesis is to connect the insights about the behaviour of German psych verbs to the cross-linguistic debate of recent years, which has reached important insights (see Arad 2002; Landau 2010; Alexiadou & Iordăchioaia 2014b; Fábregas et al. 2017; among others). The German data on the other hand also provide a good test ground for the claims made in certain theoretical accounts. Their predictions will be evaluated against the empirical findings from German as well as other cross-linguistic findings from recent studies. Since the discussion will show that all theoretical accounts face major problems in dealing with them, I will try to update the most promising theoretical accounts developing a decompositional analysis for German psych verbs, which can account for the empirical patterns observed. Especially the

analysis of stative Class II ObjExp verbs, which are universally acknowledged to constitute the most problematic case for any analysis, and have hardly ever been properly addressed, will be discussed in detail, since they provide the litmus test for any analysis.

Besides the debate on psych verbs, the study and the analysis of German psych verbs will provide further evidence for two general debates within the study of argument structure: firstly, I will argue that a layering approach to external argument introduction (see Alexiadou 2014b) is needed to account for ObjExp verbs, i.e. that causer subjects cannot only be introduced in Voice but also in vP. And, secondly, a number of differences discussed in the analysis of psych verbs will underscore the theoretical position that the two external argument roles of 'agent' and 'causer' cannot and should not be equated but have to be kept apart. Finally, the discussion of the 'problematic' group of stative Class II ObjExp verbs will shed light on a question which has recently attracted attention in theoretical debates: the combination of stativity and causation. I will argue that stative Class II ObjExp verbs represent an example of stative causative verbs, and thus pose challenges for many analyses, since causation is often defined in terms of change of state only, and discussed quite exclusively for eventive change-of-state predicates, especially in decompositional approaches.

1.2. Theoretical background and assumptions

The thesis basically has two parts, an empirical one (chapter 3 and 4), and a theoretical one (chapter 5). While the observations of the empirical part can stand on its own without making much reference to any specific theoretical model, the evaluation of the observations has to be couched in a theoretical background, and, will consequently, draw on certain theoretical assumptions, which are briefly outlined in this section. This thesis will primarily deal with aspects of the syntax and argument structure of German psych verbs. Consequently, the central assumptions in these two areas are outlined in 1.2.1 and 1.2.2. However, many questions dealt with in this study will also be related to the syntax-semantics interface, since especially questions of lexical aspect and event structure properties will turn out to be crucial. Therefore section 1.2.3 will give a brief summary of the central concepts of this field (based on Filip 2011, 2012), since these terms, diagnostics, and the reasoning behind it, will feature prominently in the study of the syntax and argument structure of psych verbs.

1.2.1. Syntax

The general theoretical background of this thesis is drawn from the Minimalist Program (Chomsky 1995 *et seq.*) combined with Distributed Morphology (see Halle & Marantz 1993; Marantz 1997; Harley & Noyer 1999; Embick 2015; among others). Based in the generative Minimalist tradition, *Merge* is assumed to be the basic syntactic operation, which takes two elements and combines them to create a bigger syntactic object. *Move* is treated as *Internal Merge*, i.e. the application of the operation *Merge* to an element which is already part of the structure. A crucial assumption from the research program of Distributed Morphology, which I follow, is that the syntactic terminals the operation *Merge* applies to can be distinguished into two different kinds of morphemes with the characteristics summarized in (5): Roots and functional morphemes.

(5) a. **Functional morphemes**: These are, by definition, composed of synsem features such as [±past], or [±pl], or [±def]. A further hypothesis is that they do not possess phonological features as part of their basic representation.

b. **Roots**: These make up the open class of 'lexical' vocabulary. They include items such as √CAT, √OX, or √SIT. Roots do not contain or possess synsem features; a working hypothesis is that in the default case, they have an underlying phonological representation.

(Embick 2015: 7, (3))

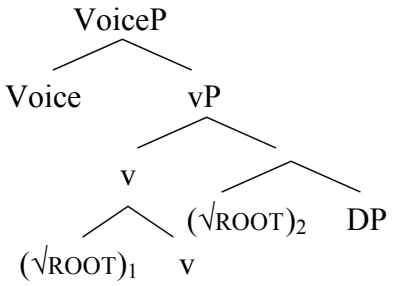
Importantly, Roots are arbitrary pairs of sound and meaning, i.e. they link phonological representations and conceptual meaning but do not contain grammatical syntactic-semantic (synsem) features. Consequently, they are acategorial. This means a Root like √SIT only becomes a verb by merging with a functional morpheme, which categorizes it, and, thus, turns it into a verb. In its strongest version, a consequence of such a decompositional view of language is that "all complex objects – i.e. all objects that consist of more than one morpheme – are derived syntactically, every time they are employed" (Embick 2015: 17), as summarized in the principle of Full Decomposition in (6).

(6) **Full Decomposition**: No complex objects are stored in memory, i.e. every complex object must be derived by the grammar.

(Embick 2015: 17, (9))

Consequently, I assume that verbs, or more precisely, what has traditionally been referred to as verbal phrases, are syntactically decomposed into a number of verbal layers on top of a category-neutral Root along the lines represented in (7).

(7) Decomposition of the verbal phrase



In decompositional approaches to verbal meaning, it is usually assumed that there are two possible attachment sides for the Root (indexed $_1$ and $_2$ in (7)) depending on the contribution, or meaning of the Root: firstly, the Root can be merged directly with the categorizer v (index$_1$). In this case, the Root modifies the eventuality introduced by v. Secondly, a Root can provide a (result) state by merging with a DP first (maybe projecting a RootP) (index$_2$). While usually only one of the two slots can be filled, in specific cases like particle- or prefix-verbs both slots might be filled at the same time (see Embick 2009).

The head v has two functions: it categorizes the Root as verbal, and, secondly, introduces an eventuality. I assume that v has two basic interpretations, a stative and an eventive/dynamic one. I follow Marantz (2005, 2009), Schäfer (2008, 2012), Wood (2015), and others, in assuming that causative semantics arises as the consequence of an interpretation rule at the CI-interface, and not because of semantically annotated little v heads in the syntax, i.e. little v does not come with different semantic 'flavours' (see e.g. Folli & Harley 2005, 2007; Cuervo 2015). The head v, be it stative or eventive, will be interpreted as causative if the complement of v is an eventuality, which can also either be stative or dynamic. In other words, causative semantics is read off the syntactic structure if a stative or eventive v combines with a complement which is an eventuality: "The result is that the activity or state denoted by v is interpreted as causing the event denoted by the complement of v" (Wood 2015: 28).

Moreover, I subscribe to the view that there is a division of labour between v and Voice (see Harley 2013; Alexiadou et al. 2015; among others): v verbalizes the Root, and licenses causative semantics, and causer arguments, while Voice introduces the external argument following Kratzer (1996). Voice is furthermore responsible for verbal passivization, it is the locus of syntactic transitivity, agentivity and manner modification (see Alexiadou et al. 2006).

Consequently, under such a view, agentivity and causation are separated, as they are represented, or rather licensed by distinct functional heads (see Pylkkänen 1999, 2008).

A crucial assumption of Distributed Morphology is that the functional morphemes syntax operates on do not have phonological content, since this is inserted only post-syntactically in the PF (phonological form) component in an operation called *Vocabulary Insertion*. In this process *Vocabulary Items*, which are (phonological) exponents combined with the (synsem) features, which determine the conditions of their insertion, are inserted into the structure. Different *Vocabulary Items* can compete for insertion into the same terminal node, as e.g. in the case of the plural in English or German: while the plural [+pl] morpheme has the spell out of *-s* [z] in the context of the Root √CAT, the same [+pl] morpheme is realized as *-en* if it is attached to the Root √OX. This demonstrates an example of *contextual allomorphy*: one functional morpheme can have two distinct allomorphs, which are in complementary distribution conditioned by the context they are inserted into (see Embick 2015).

With respect to Case/case, I follow Marantz (1991/2000), McFadden (2004), and others, assuming that case assignment is a post-syntactic phenomenon dealt with in the PF component, which is not involved in the licensing of nominals. In other words, case is assigned post-syntactically depending on the configuration a nominal element occurs in, and is, thus, accounted for under Dependent Case Theory (see Baker 2015).

Since the predominant object language of this thesis is German, two more comments are in order about German syntax. Firstly, since for the purpose of this thesis nothing hinges on that matter, I will, for the sake of simplicity, follow the traditional syntactic analysis for German, which considers it to be an OV-language, and therefore uses head-final (extended) verbal projections (see e.g. Wurmbrand 2006; Pitteroff 2014; among others). This corresponds to the position that word order is a matter dealt with in the syntax proper, however, nothing depends on this view for the purpose of this study, and all analyses could also be derived in an antisymmetric framework (but see Haider 2013, 2017 on problematic issues from the perspective of German syntax). Secondly, an important observation about German, which will turn out to have consequences for the analysis, is furthermore that German lacks a general strong EPP feature on T (see Haider 1993, 2010; Bayer 2004; among others). Therefore, a nominative-marked subject does not have to raise obligatorily to Spec,TP in German but can in principle stay in its vP/VP-internal base-position as in unaccusative verbs or passive constructions (see den Besten 1985; Wurmbrand 2006; Müller 2015; among others).

1.2.2. Argument structure

I follow a decompositional Distributed Morphology approach to argument structure (see Alexiadou et al. 2006, 2015; Schäfer 2008; Marantz 2009, 2013; Wood 2015; among others), which can be broadly located within the 'neo-constructionist/constructivist' theories of argument structure. Contrary to more traditional 'projectionist' approaches (see e.g. Levin & Rappaport Hovav 1995, 2005), which assume that argument structure is determined by lexically encoded information, especially the lexical semantics of a predicate, I follow the assumption by Marantz (2005), Harley (2011), and others that the structural meaning of a verbal predicate including its argument and event structure is basically read off the syntactic structure. This means that not only the semantic meaning of what has traditionally been referred to as CAUSE- and BECOME-predicates in Dowty's (1979) aspect calculus arises structurally as the consequence of an interpretation rule at the CI-interface as pointed out above, but also thematic roles "are syntactically determined by the specific configuration within the verbal event in which an argument is merged" (Schäfer 2008: 2). In other words, I assume a Configurational Theta Theory (see Hale & Keyser 2002; Borer 2005; Ramchand 2008; among others). The crucial difference of such an approach to more traditional 'projectionist' theories is that the contribution of the syntactic structure, which crucially encodes both argument structure and event structure, is considered to be central, and is assumed not to be determined predominantly by lexically encoded information, whose contribution is reduced to a minimum. While the view that structural meaning has to be distinguished from the idiosyncratic meaning has emerged as an important consensus across different theoretical approaches to argument structure (see Marantz 2013; Borik & Mateu 2014), it is important to stress that from a decompositional point of view, the structural meaning is contributed by the syntactic structure a Root is merged with, whereas the Roots themselves are only the locus of limited idiosyncratic meaning. This is clearly different from lexicalist 'projectionist' Root-based approaches, in which the conceptual interpretation of the Root determines the event structure, and, consequently, the argument structure and syntax of a predicate. Under the approach I follow here, event and argument structure is read off the syntactic structure, which thus determines the structural meaning of arguments (see Borik & Mateu 2014 for a more detailed comparison of the two approaches). This means consequently that different event structure and other properties correspond to different syntactic structures, and the interpretative and grammatical properties of arguments are different depending on the position in which they are merged in the syntactic structure. The variable behaviour of ObjExp verbs, i.e. that the same lexical item/Root can have different 'structural meanings', in other words different aspectual and other argument structure

properties, will provide a case in point, and good arguments for such a separation of structural syntactic meaning from the idiosyncratic Root meaning, and is the reason why such a theoretical approach is taken here for the study of psych verbs, since it can offer fruitful insights.

1.2.3. Lexical aspect and event structure

The importance of event structure for the study of argument structure (alternations) seems to be part of the "dynamic consensus" (Marantz 2013), which has evolved over the course of the last years resulting from insights provided by research from different kinds of theoretical backgrounds. The crucial role of event structure is highlighted independently of the divide over lexicalist/projectionist vs. neo-constructionist/constructivist approaches (see 1.2.2), which, of course, differ in a fundamental way with respect to its concrete conceptualization, and the relation it has to syntactic structure. What has been established as an important consensus within generative approaches to the lexicon-syntax-semantics interface, however, is the view to separate structural meaning from idiosyncratic meaning in the study of verb meaning, in whichever way structural meaning might be conceptualized, be it as event templates (see e.g. Levin & Rappaport 2005), or as derived from syntactic structure (see e.g. Hale & Keyser 2002; Marantz 2005, 2013). While it is beyond doubt that only certain parts of world meaning are relevant for argument realization (see Levin & Rappaport Hovav 2005: 10; Pinker 1989), aspectual properties clearly are among those which affect processes related to argument structure. A central uniformly acknowledged idea seems to be that verbs or, depending on the theoretical point of view, verbal structures, represent properties of happenings in the world, they are 'predicates of events' (see Parsons 1990). Yet, in the terminology of Levin & Rappaport Hovav, they represent "construals of events rather than events themselves" (2005: 19). This expresses what Filip (2011: 1191) stresses from a semantic point of view: "There is nothing in the world itself that would force us to use one description and not the other. It is predicates that offer us different choices in the description of the world's phenomena and that impose categorization schemas on the world." There is no one-to-one mapping between happenings in the real world, and the way verbs, or verbal structures represent certain sets of properties of these happenings in language. Under the more traditional (lexicalist/projectionist) view, event structure therefore refers to structured lexical semantic representations of verbs, which lexicalize certain properties of eventualities (see Fleischhauer 2016 for an overview with focus on German from this perspective). The lexical semantic information in the lexical entry of a verb basically determines its argument structure, and, consequently, its syntactic projection

in such models, like e.g. Levin & Rappaport Hovav (2005). On the contrary, constructivist/(neo-)constructionist approaches reject the distinction between semantic event structure and syntactic argument structure (see e.g. Borer 2005), and between lexical and syntactic operations (see e.g. Marantz 1997), which are all claimed to be syntactic. This means event structure properties are not specified in the lexical entry of the individual verb, but aspectual properties arise structurally in the syntax: they are read off the syntactic structure a Root is inserted into.

Yet independent of these different conceptualizations of how aspectual properties interact with the mechanisms that determine argument realization, the central concepts all these approaches within the 'dynamic consensus' refer to are fundamentally the same, which are derived from the insights of the semantic study of lexical aspect as properties of eventualities. Since they will play an important role in the further study of psych verb structures, and the evaluation of the initial hypothesis, a description of the most central concepts which will be used in this study is necessary. The following brief summary of the main concepts connected to lexical aspect draws heavily on Filip (2011, 2012), which, of course, provides a more thorough introduction, and discussion the interested reader is referred to.

Terminologically, 'lexical aspect' has to be distinguished from what is usually referred to as 'grammatical aspect', phenomena like e.g. the imperfective-perfective opposition in languages such as Modern Greek, or the Slavic languages. Whereas the terms 'aspectual class', or *Aktionsarten(en)*, which are usually used synonymously, refer to the classification of individual verbs depending on their aspectual properties, the term 'lexical aspect' is broader and denotes the general concept, which is a central concept of natural language semantics, especially in research about the syntax-semantics interface. "[T]hree fundamental aspectually relevant concepts" (Filip 2012: 727) are key to lexical aspect: (i) change of state, (ii) end/ limit/ boundary, and (iii) temporal extend. On the basis of these three categories four main classes of verbs are usually distinguished, which are referred to by different labels (see Vendler 1957; Mourelatos 1978; Dowty 1979; Bach 1986; Parsons 1990): (i) state, (ii) activity/ process, (iii) accomplishment/ event protracted/ protracted process, and (iv) achievement/ event momentaneous.

TABLE 1: Aspectually different classes of verbs (Filip 2012: 728, (9))

		Change	**End/ Boundary**	**Temporal extend**
Atelic	state	–	–	+
	process	+	–	+
Telic	event protracted	+	+	+
	event momentaneous	+	+	–

Similar to Aristotle's conceptual distinction of *kinêsis* and *energeia,* Garey (1957) introduces the central telic–atelic distinction, which distinguishes two fundamentally different classes of verb meanings: what sets them apart is that telic verbs involve some 'end' or 'limit', while atelic ones do not. Importantly, as Filip (2012) points out, telicity is central here rather than agentivity-oriented 'goal' or purpose, since there are also non-agentive telic verbs alongside agentive ones. The important telic–atelic distinction is usually established on the basis of a number of standard tests: (i) compatibility with certain temporal adverbial modifiers, (ii) combination with expressions of quantity, and (iii) the progressive–non-progressive distinction. The first diagnostic, compatibility with temporal adverbial modifiers, is based on the observation that telic verbs freely combine with adverbials like '*in* X time', which measure the time span the eventuality expressed by the verb takes to culminate. On the contrary, atelic verbs freely combine with '*for* X time' adverbials measuring the temporal duration of the eventuality denoted by the verb as can be seen in (8).

(8) a. John recovered in an hour / (*) for an hour. TELIC
b. John swam (*) in an hour / for an hour. ATELIC
(Filip 2012: 722, (1))

It is important to notice that both uses of adverbial modifiers can have other readings besides the two intended readings in the test, which are irrelevant here, and therefore marked by (*). *In*-adverbials can measure the time until the onset of an atelic eventuality, roughly equivalent to the meaning of '*after* X time'. The second reading of *for*-adverbials measures the duration of a result state of a telic verb, and thus constitutes a different type of diagnostic for result states (see Dowty 1979; Piñón 1999).

The second diagnostic is about the combination with expressions of quantity: while vague quantifiers like *a lot* select atelic verbs (see 9), cardinal count adverbials like e.g. *four times* are only freely combinable with telic verbs (see 10).

(9) a. Vesuvius erupted three times. TELIC
b. John slept (*) three times last night. ATELIC
(10) a. Vesuvius erupted (*) a lot. TELIC
b. John slept a lot last night. ATELIC
(Filip 2012: 723, (2), (3))

And, finally, the progressive/non-progressive distinction separates the two classes of verbs since the conclusion "x has V-ed" from "x is V-ing" never holds for telic verbs, but atelic verbs often sanction it.

The telic–atelic distinction resulting from the concept of 'end/boundary' is closely related to the two other central concepts of lexical aspect: change of state, and temporal extend. Dowty (1979: 167) establishes the view that change is the most fundamental concept relevant with respect to lexical aspect, since the fundamental difference between different classes of aspectually distinct verbs can be traced back to the presence or absence of a change-of-state entailment defined as the one-place predicate BECOME ϕ: stative verbs neither entail change nor have an inherent limit or end. Dynamic verbs always entail some kind of change, even though not all dynamic verbs are telic. Accordingly, three types of aspectual classes can be distinguished: those which do not contain change (states), those which contain indefinite change (activities), and those containing definite change (both single and complex change-of-state verbs), with each of these four classes splitting into an agentive, and a nonagentive subclass (see Filip 2011: 1196-1198). Thus, Dowty separates agentivity from aspectual class as Filip (2011: 1198) point out. Another distinction can be made on the basis of the temporal extend of eventualities: while some eventualities denote temporal extend, others do not, since they are punctual, like achievements (under Vendler's (1957) definition), and semelfactives (see Talmy 1985; Smith 1997).

How to draw the boundaries between the different classes of verbs, and how to exactly define these classes has been a matter of controversy ever since Vendler (1957) proposed his influential classification of verbs as summarized in (11), which is based in the Aristotelian tradition, and is meant to capture "the most common time schemata implied by the use of English verbs" (Vendler 1957: 144):

(11) a. states: *desire, want, love, hate, dominate*
b. activities: *run, walk, swim, push (a card)*
c. achievements: *recognize, reach, find, win (the race*)
d. accomplishment: *run a mile, paint a picture*, *grow up*

While accomplishments and activities contain *periods of time*, only for accomplishments these have to be 'unique and definite'. "Both states and achievements involve *time instants*, but only achievements 'occur at a single moment' (Vendler 1957: 147), while states hold at *any* instant during the interval at which they are true" (Filip 2011: 1189). In connection to the *in-/for-*

adverbial diagnostic, Vendler introduces the semantic property of homogeneity. Only activities, such as e.g. *run*, are homogeneous: "running and its kind go on in time in a homogeneous way; any part of the process is of the same nature as the whole" (Vendler 1957: 146). Contrary to that, accomplishments are not homogeneous because "the set terminal point requires that the successive phases preceding it cannot be alike, and none of them is such that it involves the attainment of the terminus" (Filip 2012: 731). Consequently, while activities can be split in separate phases which all constitute the same kind of homogeneous event because they do not have a set terminal point, accomplishments are indivisible, and do not have the homogeneity property. Thus, based on Vendler's concepts 'successive phases' and 'terminus' the classification in TABLE 2 emerges:

TABLE 2: Vendler's four aspectual classes (Filip 2012: 731, (18))

	Successive phases	Terminus
Activity	+	–
Accomplishment	+	+
Achievement	–	+
States	–	–

While a general consensus seems to have emerged that aspectual classification cannot be restricted to basic verbs but should at least include the complete verbal phrase, and most probably the sentence level (see Filip 2011: 1191), the definitions of individual verb clusters are often a matter of discussion. The most famous example of this might be the different ways in which Vendler (1957), and Dowty (1979) conceptualize the difference between accomplishment and achievement (see Filip 2012: 727): for Vendler (1957), accomplishments are distinguished by temporal extend and agentivity from achievements, i.e. they are agentive actions with some temporal extend, whereas achievements are non-agentive, and punctual. Dowty (1979), however, argues that the distinction is neither agentivity nor temporal extend, which he claims to be irrelevant for the distinction between accomplishment and achievement, but, for him, they are separated by causation.

While there are a number of different controversial discussions within the (semantic) study of lexical aspect (see Filip 2011, 2012 for further details), the insides provided by work on event structure has become crucial for the investigation of the syntax-semantics interface, not least because it provides vital tests for aspectual properties, and fine-grained devises to make distinctions between verbs, or verbal structures. Most of the controversies surround the correct definition of verb classes, the features which constitute such verb classes, and the assignment of individual verbs to those classes, i.e. they often reflect problems of aspectual *classes,* or

Aktionsart(en). This is less relevant here, since the focus under the theoretical perspective of this study is on lexical aspect as a property of eventualities: aspectual properties are, crucially, not claimed to be part of a fixed lexical entry of an individual verb, which is problematic since "verbs manifest a considerable variability in their assignment to aspectual classes in dependence on their context of use" (Filip 2011: 1191), but aspectual properties are conceptualized to arise due to the different syntactic verbal structure Roots are merged with. The variability and diverse behaviour of psych verbs show with respect to their aspectual properties constitutes a particular case in point for that, and pose serious problems, since they are difficult to account for (see e.g. Klein & Kutscher 2005 on German), especially under a perspective assuming that event structure properties are defined in the lexical entries of the respective verbs. This is one of the central reasons why this study explores a decompositional approach to argument and event structure of psych verbs.

1.3. Outline

The central proposal of this thesis in a nutshell is that, analogous to Pesetsky's (1995) insight that the non-experiencer arguments in psych verbs are not uniform but have to be distinguished into the thematic roles of Causer and Object of Emotion, 'experiencer' arguments have to be separated into two different groups, or 'roles' as well, since they do not constitute a homogeneous group either. I will argue that different 'roles' or 'thematic relations' have also been lumped together under the term 'experiencer' in psych verbs. In the traditional terminology, one could say that what has been labelled as 'experiencer' in psych verbs actually splits into two different thematic roles. The difference is crucially conditioned by the aspectual properties of the verbs, or rather the syntactic structure the arguments are merged with: only experiencer arguments in stative psych verbs are experiencers in a syntactically meaningful way, i.e. only they differ significantly from canonical internal objects. Only these experiencers, which could be labelled 'holder experiencers', have a syntactic form which is different from canonical direct objects because they are introduced as holder of a state by a functional projection 'externally' to the verb. 'Holder experiencers' in stative verbs always pair up with objects of emotion, i.e. subject matter, or target of emotion arguments, not with causer argument. 'Experiencers' in nonstative psych verbs are in fact affected direct objects, and always occur together with a causer argument. These objects undergo a change of state (at least in a 'wider sense'), or are inchoative (see Marín & McNally 2011), which turns them into affected arguments (see Beavers 2011). They could consequently be labelled 'affected

argument experiencers'. This distinction can be described in a Proto-Role approach (Dowty 1991) as well: in the nonstative verbs, the 'affected argument experiencer' undergoes change of state, and, thus, has one Proto-Patient entailment more than the non-experiencer causer argument, which turns it into a 'better patient', and, thus, a canonical direct object. To the contrary, in stative psych verbs, the 'holder experiencer' lacks the additional Proto-Patient property since it does not undergo change. Consequently, the objects are not canonical internal affected objects but have the structure of datives, which is typical for less affected objects in German (see Wegener 1985). Semantically the experiencer in stative ObjExp verbs is a holder of a state, less affected than in the change-of-state psych verbs, more akin to a kind of possessor or beneficiary of a state, with which they share their syntactic structure and many properties. Separated from eventive psych verbs, and analysed like that, stative psych verb constructions, SubjExp as well as ObjExp, can be unified under one type of construction, which is in accordance with what has been proposed as analyses for stative verbs in general, such as e.g. in Ramchand (2008). I will argue that the assumption that experiencer arguments represent a uniform group, and, that, consequently, psych verbs should be analysed as one more or less homogeneous group defined by their experiencer arguments is the real reason behind the longstanding debates, and many controversies surrounding these verbs. Psych verbs simply are not one group of verbs but belong to different groups of verbs, and, thus, have to be separated, and analysed accordingly depending on their properties. Consequently, this means that psych verbs are less 'special' than usually assumed, but their characteristic property is that they are often ambiguous between different otherwise more or less regular patterns, such as the causative–anticausative alternation, etc. as will be shown. If appropriately classified, psych verbs and the status of their arguments are subject to general grammatical properties like change of state, and the presence or absence of Voice, etc., which can explain most of their behaviour. A consequence of this analysis is further that, while I use the common terminology of 'psych verbs', and 'experiencers', these labels are of descriptive nature but are not assumed to carry much importance for the grammar, i.e. the syntactic processes. What matters are differences in the syntactic structure which lead to the difference between 'holder experiencer', and 'affected argument experiencer' arguments because of the position these arguments occupy in the syntactic structure.

With respect to the recent theoretical debate on psych verbs this means that I will build on Landau's (2010) central claim that experiencers in nonagentive stative ObjExp verbs are different, however, crucially, restricting his claims to ***stative*** ObjExp verbs only. Furthermore, pace Landau (2010), I will present data from German adjectival passivization, attributive use

of the past and present participle, etc., and discuss further evidence from other cross-linguistic studies, which show that it cannot be not inherent case marking, or a special $Ø_{\Psi}$-PP, which is responsible for the different status of these arguments but the functional syntactic structure they appear in. The different aspectual properties of the different ObjExp verbs, which condition the different readings, are taken to be indicative of such structural syntactic differences in my decompositional analysis. Crucially, only experiencers in stative verbs have a different syntactic form. On the contrary, 'affected argument experiencers' in nonagentive eventive ObjExp verbs do not differ from canonical direct objects as will be shown on the basis of their empirical behaviour in German, i.e. they are not oblique, or PP-like arguments in a $Ø_{\Psi}$-PP, confirming Grafmiller's (2013) claims pace Landau's (2010) account in this respect.

The strategy I will adhere to for the analysis of psych verbs in this thesis consists of two steps: firstly, separate the verbs into the different groups they belong to according their empirical properties. And, secondly, provide empirically appropriate analyses for the different groups, which will result in different analyses for different groups of verbs.

Chapter 2 outlines the problem sets and debates around psych verbs, and briefly summarizes some of the different solutions offered to the challenges posed by psych verbs in the extensive generative/formal literature of the last 30 years, focussing especially on those aspects of the debate which will turn out to be important for the study of German psych verbs. In chapter 3, the empirical patterns of German psych verbs are presented, and briefly discussed. While a great diversity of psych verb constructions can be observed, it will be shown that the three categories of psych verbs in (2-4), which dominate the cross-linguistic discussion, are also the most relevant ones for German, and, consequently, will be at the centre of this study. Furthermore, an alternation German psych verbs display will be introduced, which has not been discussed and analysed systematically yet but can give interesting insights for the analysis of ObjExp verbs, especially under a decompositional perspective. There is a group of psych verbs which is formed on the basis of '√PSYCH' Roots denoting emotional, psychological concepts like √ärger 'anger/annoy(ance)', √angst 'fear', etc. These Roots occur in three different constructions: as (i) bare √PSYCH ObjExp verbs (e.g. *ärger(n)* 'annoy/anger'), (ii) PREFIX-√PSYCH ObjExp verbs (e.g. *ver-ärger(n)* PREFIX-annoy), and (iii) reflexive marked *sich* √PSYCH SubjExp verbs (e.g. *sich ärger(n)* REFL annoy), and all three forms show different empirical properties. In the second part of chapter 3, the proposals for the classification and analysis of German psych verbs which have been put forward in the literature so far are reviewed, and evaluated with respect to the question whether they can account for the empirical patterns observed. The discussion will show that none of these approaches can account satisfactorily for

the different properties and diverse empirical patterns observed with ObjExp verbs (see also Klein & Kutscher 2005). Even worse, it seems that not even a consensus about the empirical description, and proper classification of ObjExp verbs exists.

Consequently, chapter 4 firstly provides an empirical analysis of some of the controversially discussed phenomena related to psych verbs, above all agentivity, passivization, event structure, and the different behaviour and grammatical properties of the alternating √PSYCH and PREFIX-√PSYCH verbs. Since agentivity is often considered to be the decisive factor conditioning the behaviour of ObjExp verbs, the discussion starts with this aspect. Yet it will be shown that agentivity is not enough to account for the empirical patterns observed as aspectual properties play a crucial role. This main hypothesis is empirically tested in the other three sections of chapter 4, which examine phenomena related to, and conditioned by event structure differences between different (forms or readings of) ObjExp verbs: firstly, the psych causative alternation, secondly, event structure differences between √PSYCH verbs and PREFIX-√PSYCH verbs, and, finally, the empirical behaviour of √PSYCH and PREFIX-√PSYCH verbs in ten grammatical diagnostics from verbal and adjectival passivization to the attributive use of the past participle and 'object drop', etc., which will highlight the differences between different groups of ObjExp verbs. Since the empirical analysis shows that there is a crucial stative versus nonstative distinction within the group of ObjExp verbs, I will argue that two different kinds of analyses are needed for Class II ObjExp verbs (following Pylkkänen 2000): a nonraising analysis for nonstative ObjExp verbs, and a raising analysis for the stative Class II ObjExp verbs.

Consequently, the theoretical analysis in chapter 5 is separated into two parts, one for the nonstative psych verbs, and one for all stative forms. While the nonstative ObjExp verbs are less problematic, their analysis will nevertheless reveal interesting parallels to another group of verbs, which has recently attracted attentions: transitive alternates of internally caused change-of-state verbs (see Rappaport Hovav & Levin 2012). On a par with these verbs, nonstative ObjExp verbs also split into two groups of change-of-state verbs, which can be distinguished by restrictions on passivization and the agentivity of their subject. Following the analysis in Alexiadou (2014b), I will argue that one group of ObjExp verbs also introduces their causer subjects in the vP, which provides further evidence for a layering approach to external argument introduction, and the need to separate causer and agent arguments. The problematic case of stative ObjExp verbs, which has unanimously been identified as a most challenging aspect in the study of psych verbs will be discussed in the major part of chapter 5. While the analysis of SubjExp verbs, and dative Class III ObjExp verbs can be considered to be more or less consensual, the analysis of stative Class II √PSYCH ObjExp verbs poses major challenges for all

accounts of psych verbs. These verbs are stative and causative at the same time, and display a number of interesting empirical properties. I will argue for a raising analysis of these verbs as stative causatives with a 'complex ergative structure' following Bennis' (2004) terminology and basic idea about the latter concept. In the last section of chapter 5, a number of interesting empirical phenomena, which have been noticed in the literature before, will be discussed, which put together with the observations about the aspectual differences provide arguments for such a raising analysis.

This thesis is not primarily a quantitative work, yet it nevertheless tries to contribute to the discussion about psych verbs in a qualitative and somehow quantitative way, not least by relating the theoretical argumentation to experimental findings of other studies as well. While there has been a lot of quantitative experimental work on, or involving psych verbs in recent years (see e.g. Bornkessel & Schlesewsky 2006; Haupt et al. 2008; Thompson & Lee 2009; Bader & Häussler 2010; Brennan & Pylkkänen 2010; Verhoeven 2010, 2014, 2015; Grafmiller 2013; Dröge et al. 2014; Hartshorne et al. 2015; Temme & Verhoeven 2016; Hartshorne et al. 2016; Ellsiepen & Bader 2018; etc.), the controversial status of these verbs calls for both more quantitative as well as qualitative work, since many of the empirical properties of ObjExp verbs, and how they should be analysed theoretically(, which also affects the results of quantitative studies, if psych verbs are used as stimuli), are still far from clear. In fact, especially for ObjExp verbs hardly any consensus exists, neither cross-linguistically nor for German, but very different claims have been made both for description, and classification as well as the theoretical analysis of these verbs. Therefore, there is still a lot more work to do to get to a better understanding of the empirical properties and the theoretical status of ObjExp verbs. Not least because it will be shown that all existing theoretical analyses face severe challenges, and none can account satisfactorily for the empirical patterns observed in German and beyond. This study therefore argues quantitatively in a sense that it applies more tests, and diagnostics which have not yet been much exploited to a broader set of different psych verbs than the usual few typical examples, which have often biased results, and consequently argumentations, and thus led to somehow skewed generalizations, which do not mirror the correct, i.e. complete, picture of psych verbs, which starkly differ from each other, and are far from constituting a homogeneous group of verbs. A case in point is the verb *ärgern* 'annoy/anger', which is one of the most frequently used examples in the literature but will be shown to turn out to be especially tricky, confounding many of the claims made based on it. Therefore, it is necessary to clarify the properties of these verbs, which have very often been the subject of controversial discussion,

and conflicting claims but hardly ever the subject of close and systematic examination of their properties, i.e. the different properties which they are assumed and claimed to exhibit.

The data used in this thesis, which form the basis of the empirical analysis, come from a variety of sources: corpus data from the *Deutsche Referenzkorpus* COSMAS II corpus system of the *Institut für Deutsche Sprache* (https://cosmas2.ids-mannheim.de/cosmas2-web/), indicated in the examples by C, and the corpus code of the example; glosses and translations of all corpus examples are always mine. Additionally, the DWDS system (*Digitales Wörterbuch der deutschen Sprache*) of the *Berlin-Brandenburgische Akademie der Wissenschaften* (https://www.dwds.de), which offers digitalized versions of dictionaries (like the 19th century dictionary of the Jacob and Wilhelm Grimm, or the Dictionary of Contemporary German), corpora, and other sources provided an important basis for data searches. Besides, data from the internet, books, Google Books, newspaper articles, and from the linguistic literature are used, which I indicate accordingly. I have always tried to use as many 'natural' examples from the actual use as possible, however, especially corpus searches come to a natural limit with a topic like psych verbs because of the broad variety of different constructions individual lexical items show, such as e.g. the Root √ärger: *x ärgert y* 'x annoys y'*, x verärgert y* 'x PREFIX.annoys y'*, y ärgert sich über x* 'y is annoyed about x'*, y ist verärgert über x* 'y is PREFIX.annoyed about x'*, y wird von/durch y verärgert* 'y becomes annoyed by/from x'*,* etc. This variety, and what triggers it grammatically is very relevant for the questions of this study, yet the different constructions exhibit quite different frequencies of use, and might therefore not be found in corpora equally well, or at all, which, of course, does not mean that they do not exist, or are ungrammatical. Therefore, and for expositional purposes it has also been necessary to construct a vast number of examples by myself. These are, however, always multiply checked with other native speakers of German (usually of different dialectal, and regional backgrounds), linguists as well as non-linguists. Examples from the linguistic literature are only used without further comment if they can be considered to be uncontroversial, or at least to represent the consensual standard view. If there are controversies about data from the literature, this is highlighted, and discussed accordingly – to best of my knowledge.

Chapter 2 : Psych verbs: problem sets and debates

Psych verbs have been such a prominent and controversial topic in syntax-semantics literature for more than three decades (see Postal 1971; Brekke 1976; McCawley 1976; Belletti & Rizzi 1988, 2012; Grimshaw 1990; Pustejovsky 1991, 1995; Dowty 1991; Van Voorst 1992; Croft 1993, 1998; Iwata 1995; Bouchard 1995; Wechsler 1995; Pesetsky 1995; Baker 1997; Arad 1998b; 2002; Pylkkänen 2000; McGinnis 2000, 2001b; Reinhart 2001, 2002; Bennis 2004; Landau 2010; among others) because they pose problems for canonical theories of argument structure, and allow to examine crucial syntax-semantics interface phenomena. This chapter briefly reviews and summarizes certain parts of the extensive literature on this topic from a problem-driven perspective. The different strategies offered in the literature for how to deal with the two central problem sets already sketch out in the introduction will be discussed, and briefly evaluated. Section 2.1 will be concerned with the challenges psych verbs pose for theories of mapping arguments to semantic roles ('linking problem'), and discusses the solutions offered for this problem under different accounts. The second part of the chapter is concerned with the problems connected to the diverse behaviour of psych verbs, especially ObjExp verbs, and the strategies offered in the literature for how to cope with this problem set.

2.1. The 'linking problem'

Because of the fact that psych verbs can realize the same thematic role of 'experiencer' in two (apparently) different positions they pose a problem for any semantic role based theory of the lexicon-syntax interface regulating the linking between arguments and thematic roles building on thematic hierarchies, or general linking principles like Baker's (1988) UTAH (see 12), or Perlmutter & Postal's (1984) UAH (see 13), since most such approaches postulate a general one-to-one mapping between semantic roles and syntactic positions, i.e. the same thematic role is supposed to be realized in the same syntactic position.

(12) *Uniformity of Theta Assignment Hypothesis* (UTAH): Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure (Baker 1988: 46).

(13) *Universal Alignment Hypothesis* (UAH): There exist principles of UG which predict the initial relation borne by each nominal in a given clause from the meaning of the clause (Perlmutter and Postal 1984: 97).

These general linking principles are challenged by psych verbs like in (14-15), since at least the surface structures seem to indicate a different mapping position for the experiencer argument: in subject position in (14) as opposed to object position as in (15).

(14) *Mary*$_{EXP}$ fears ghosts.

(15) Ghosts frighten *Mary*$_{EXP}$.

2.1.1. Unaccusativity approaches

The group of approaches summarized under the term 'unaccusative approaches' here follows in one way or the other the central ideas postulated by Belletti & Rizzi (1988). In order to preserve a 'relativized form of UTAH' (RUTAH), and to account for 'special properties' of ObjExp verbs in Italian, such as 'backward binding', and others, Belletti & Rizzi (1988) assume that both SubjExp and ObjExp verbs share a similar underlying deep structure (D-structure), but differ with respect to their surface structure (S-structure) only. In their Government & Binding theoretic approach, the common underlying D-structure results from the fact that psych verbs share the same basic configuration of experiencer and theme arguments in their θ-grids (see 17-19) in combination with the projection rule in (16), with the only difference being that SubjExp verbs have an external argument role (indicated by underscoring), while ObjExp verbs lack such an external argument. Furthermore, ObjExp verbs (*preoccupare* and *piacere* in (18)-(19)) have a specific inherent case linked to their experiencer arguments in their Case grid.

(16) Given a θ-grid [Experiencer, Theme], the Experiencer is projected to a higher position than the Theme

(17) *temere*: θ-grid [Experiencer, Theme]
Case grid [– –]

(18) *preoccupare*: θ-grid [Experiencer, Theme]
Case grid [ACC –]

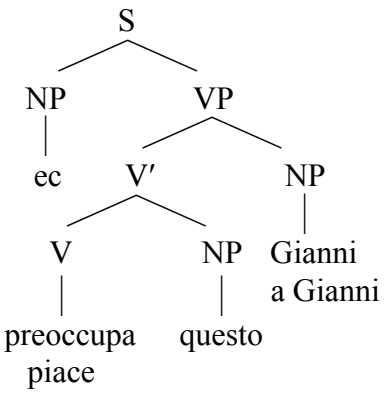
(19) *piacere*: θ-grid [Experiencer, Theme]
Case grid [DAT –]

(Belletti & Rizzi 1988: 344, (119)-(122))

Thus, in accordance with a RUTAH (see Larson 1990: 601; Baker 1997), the relative relations of semantic prominence are preserved in the syntax for all psych verbs: the theme argument is

always base-generated lower than the experiencer, the only difference is that the experiencer argument in SubjExp verbs is an external argument while ObjExp verbs do not have external arguments[1]. ObjExp verbs are assumed to be "a kind of double object construction with a nonthematic subject position" by Belletti & Rizzi (1988: 293), with the D-structure configuration in (20). Since ObjExp verbs lack external arguments they cannot assign structural accusative case either following Burzio's (1986) Generalization. Therefore, Belletti & Rizzi (1988) postulate that not only dative on *piacere* Class III ObjExp verbs but also accusative on *preoccupare* Class II ObjExp verbs is lexically governed inherent case. The theme is not assign case in its base-position in a structure like (20), consequently, according to the principles of Case Theory, it must move to the subject position, where it is assigned structural nominative case, in order to satisfy the Extended Projection Principle (EPP) (see Chomsky 1982), which derives the different S-structure configurations of psych verbs.

(20) D-structure of ObjExp verbs (Belletti & Rizzi 1988: 293, (6))



While postulating inherent accusative case for Class II ObjExp verbs has been criticized for conceptual reasons as purely stipulative without explaining why these verbs show this behaviour (see e.g. Grimshaw 1990), the central empirical point of criticism about this kind of approaches is the fact that the unaccusativity account predicts that ObjExp verbs do not form verbal but only adjectival passives. However, a long line of research starting with Pesetsky (1995), Bouchard (1995) and others has shown that (at least some) ObjExp verbs do have verbal passives. These observations cannot be accounted for Belletti & Rizzi's unaccusative approach. Furthermore, some of the initial motivations for Belletti & Rizzi's unaccusative analysis, like e.g. the observations about 'backward binding' (see e.g. Cançado & Franchi 1999), reduced

[1] Therefore, Belletti & Rizzi (1988) belong to the class of 'prominence preservation approaches', which maintain relative mapping as opposed to the class of 'equivalence preservation approaches', which maintains absolute one-to-one mapping relations from semantic roles to syntactic position (see e.g. Baker 1997: 120-121), as Anagnostopoulou (2008: 3-4, based on Levin & Rappaport Hovav 2005: 142-144) points out.

relatives, etc., have been questioned or have been shown not to be restricted to psych verbs (see section 2.2, and further Pesetsky 1995: 11-51; Arad 1998a, 2002 for a detailed critical discussion of counter arguments).

2.1.2. Causativity approaches

Causative approaches to the 'linking problem' are numerous and show a great diversity with respect to their underlying theoretical models and concrete implementation of the analysis (see Chomsky 1970; McCawley 1976; Brandt 1979; Grimshaw 1990; Pustejovsky 1991, 1995; Pesetsky 1995; Wechsler 1995; Iwata 1995; Van Valin & LaPolla 1997; Rapp 1997, 2001a, 2001b; Arad 1998b, 2002; Pylkkänen 2000; McGinnis 2001b; Levin & Rappaport Hovav 2005; Rothmayr 2009; Grafmiller 2013; Fábregas & Marín 2015, etc.). What they have in common is that, for all of them, the central difference between SubjExp and ObjExp verbs, which is key to solving the 'linking problem', is the fact that ObjExp verbs are causative, while SubjExp verbs are not, i.e. the syntactic structures are in fact different: while SubjExp verbs are simple stative verbs, ObjExp verbs involve causativity in their structure, which explains the different linking patterns. In the following sections, some of the most influential implementations of causative analyses proposed in the literature, which will play a role in the further argumentation of this thesis, will be briefly summarized.

2.1.2.1. Grimshaw (1990)

In Grimshaw's (1990) approach, the underlying concept of argument structure is basically one of structured representations of prominence relations among arguments. Two dimensions, the thematic (21a), and the aspectual/causal (21b), determine the prominence relations of a predicates.

(21) Prominence Hierarchies (Grimshaw 1990: 24, (40)):
a. (Agent (Experiencer (Goal/Source/Location(Theme))))
b. (Cause (other…))

Thematic properties are regulated according to the ranking on the thematic tier, while the aspectual/causal tier ranks arguments depending on how they participate in the sub-parts which constitute the verbal event structure. An argument can only be realized as external argument in

this system if it has maximal prominence, i.e. if it is the most prominent argument on both the thematic as well as the aspectual/causal hierarchy. Grimshaw assumes that SubjExp and ObjExp verbs share the same thematic prominence relation (Experiencer (Theme)), however, their configuration on the aspectual tier is different, which distinguishes the two classes of verbs. While SubjExp verbs are simple stative events with no subevents, ObjExp verbs are causative, i.e. they constitute a complex event structure with two distinct subevents in a causal relationship. Since the Experiencer is higher ranked on the thematic hierarchy than the Theme (see 21a), and due to the fact that SubjExp verbs denote simple stative events without subevents, the experiencer can be realized as external argument in SubjExp verbs[2].

For ObjExp verbs, the situation is more complicated: since these verbs are "causative and not stative" (Grimshaw 1990: 23), the experiencer is more prominent on the thematic tier, whereas the entity causing the emotion is more prominent on the aspectual tier because of its participation in the causing subevent, i.e. they result in a conflict between the two hierarchies. For Grimshaw, this mismatch is the reason of "[t]he special character of the non-agentive *frighten* class" (1990: 25). Grimshaw also raises the point that a distinction between agentive readings of ObjExp verbs like in (22a), and nonagentive readings has to be made (see 22b).

(22) a. Paul (deliberately) frightened Nina.
b. Paul's haircut (*deliberately) frightened Nina.

Only the nonagentive 'psychological causatives' are problematic, since they lead to a mismatch of thematic and aspectual hierarchies (23b), while the agentive version behaves like standard agentive verbs, as their dimensions are well aligned (23a).

(23) a. Agentive psychological causative
Thematic tier: (Agent(Exp))
Aspectual tier: 1 2
b. Psychological causative
Thematic tier: (Exp (Theme))
Aspectual tier: 2 1

[2] However, as Grimshaw (1990: 27-28) admits herself, this is not as unproblematic under her account as it seems to be at first sight: since SubjExp verbs only contain one subevent, the fact that the experiencer argument is higher on the aspectual tier as well, which is necessary for it to be an external argument, does not follow from the aspectual hierarchy itself, but, in fact, has to be stipulated. This is connected to a more general drawback of Grimshaw's system, which encounters problems in dealing with predicates, which consist of one subevent only, such as e.g. activity verbs (see Rapp 2001b for a detailed critical discussion).

c. Psychological state
Thematic tier: (Exp (Theme))
Aspectual tier: 1 2

(Grimshaw 1990: 28-29, (51)-(49))

Grimshaw's analysis has been criticized for several reasons (see e.g. Bouchard 1995), not least because she has to stipulate the analysis of verbs with one aspectual component like SubjExp verbs, and activities, and her system generates wrong predications for a number of verbs (Rapp 2001b for detailed discussion of the critical aspects). However, as Grafmiller notes "her most enduring observation has been that Obj-Exp verbs from a heterogeneous class, and that the differences among verbs can be traced to the nature of the psychological event(s) they denote" (2013: 17).

2.1.2.2. "The Notion Rule" (Wechsler 1995)

Wechsler points out that *fear*-type (SubjExp) and *frighten*-type (ObjExp) verbs differ semantically in a fundamental way: ObjExp verbs describe the causation of a mental state but not the intentional content of the result state, while SubjExp verbs "tell us the content but not the cause" (1995: 65). Since the two roles of cause and content are often filled by the same entity he highlights that we should remind ourselves of the longstanding philosophical and linguistic insight already formulated by David Hume:

> We must, therefore, make a distinction betwixt the cause and the object of these passions, betwixt the idea which excites them, and that to which they direct their view, when excited (Hume 1968/1888: 278, quoted in Wechsler 1995: 41).

Wechsler captures this difference in his "Notion Rule": while SubjExp verbs are subject to this rule, i.e. the experiencer in SubjExp verbs must have a notion of the object (content) of the mental state it is in (see 24), this does not hold for the experiencer in ObjExp verbs (see 25).

(24) a. John likes Mary.
⊨ John has a notion of the cat
⊭ Mary has a notion of John

b. John fears Mary.
⊨ John as a notion of Mary
⊭ Mary has a notion of John

(Wechsler 1995: 35, (48b,c))

(25) a. Some kids switched the traffic signs around to confuse the drivers.
⊭ the drivers have a notion of the kids

b. The food was secretly laced with a mild sedative. This drug calmed the patients.
⊭ the patients have a notion of this drug

(Wechsler 1995: 43, (68c,d))

However, even though the "Notion Rule" can capture the central difference between SubjExp and ObjExp verbs, Wechsler notes that there are "a few verbs which appear to be genuine counterexamples to the Notion Rule", and explicitly names *concern,* and *preoccupy*. For these verbs, the experiencer object must have a notion of the entity causing the emotion (see 26). It is interesting to note that these are the verbs which are frequently named among the very few ObjExp verbs in English which are exclusively stative[3]. While Wechsler does not discuss the aspectual properties of these verbs, he mentions that these verbs cannot be used volitionally.

(26) a. #Toxic waste concerns the Senator deeply – he just happens to be unaware of its existence.

b. #The most recent massacre of defenseless civilians by the U.S. military was so brutal that it preoccupies even those who do not know it occurred.
(Wechsler 1995: 44, (71a, b)).

2.1.2.3. Two different thematic roles (Pesetsky 1995)

Pesetsky's (1995) central observation, which many causativity accounts implicitly or explicitly follow, is that the non-experiencer argument is in fact not the same for SubjExp and ObjExp verbs, i.e. that two distinct thematic roles have been lumped together under the label 'theme'. The non-experiencer argument of ObjExp verbs always bears the θ-role 'Causer', while the non-experiencer argument of SubjExp verbs always bears the θ-role 'Target of Emotion' or 'Subject Matter of Emotion' (henceforth: T/SM), which can be summarized under the philosophical term 'Object of Emotion', and is entirely different from the Causer role.

(27) a. Bill was very angry <u>at the article in the Times</u>. (target)

b. <u>The article in the Times</u> angered/enraged Bill. (cause)

[3] Wechsler further notes (attributing the observation to Peter Sells) that these verbs are a common source of difficulty for second language learners of English, who frequently produce SubjExp patterns like *we concern syntax in this class* or *she preoccupies memories of Japan*, which adhere to the "Notion Rule" (1995: 44, ft. 11).

(28) a. John worried about the television set. (subject matter)
b. The television set worried John. (cause)
(Pesetsky 1995: 56-57, (30), (36))

Based on examples like (27-28), Pesetsky argues that the truth conditions of the (a) and (b) sentences of each pair are distinct. While the subject in (27a/28a) must have evaluated the T/SM, in this case the article he is angry about, this is not required in (27b/28b). Here, Pesetsky points out, the experiencer (Bill) need not to be angry at the article itself because a Causer argument "must simply be causally connected to the emotion described by the predicate and borne by the Experiencer" (1995: 56). The distinction between the two different kinds thematic roles can also been seen in the different implicational relations between sentences with a Subject Matter of Emotion and a Causer (see 30).

(29) a. John worried about Mary's poor health, but Mary's poor health did not worry John. [contradiction]
b. Mary's poor health worried John, but John did not worry about Mary's poor health. [noncontradiction]
(Pesetsky 1995: 57-58, (163))

(30) a. If X worried about Y, then Y worried X. [true]
b. If Y worried X, then X worried about Y. [false]
(Pesetsky 1995: 58, (162))

Because (29a) results in a contradiction, but (29b) does not, Pesetsky argues that there is a one-way implicational relation (see 30): while the Causer can also be the T/SM at the same time, it is not necessarily the case that the cause of the emotion is also the object/content of the emotion as the nontautology in (31b) proves.

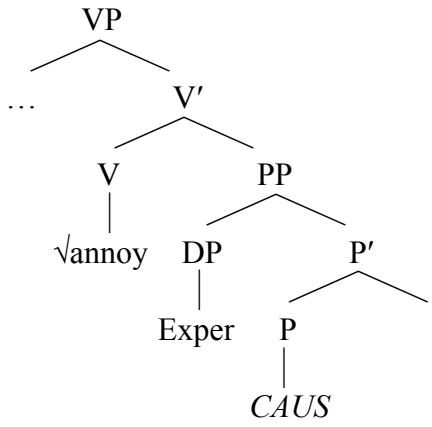
(31) a. Because/Whenever John worried about Mary's poor health, Mary's poor health worried John. [tautology]
b. Because/Whenever Mary's poor health worried John, John worried about Mary's poor health. [nontautology]
(Pesetksy 1995: 58, (163))

Since the causer role is always associated with the subject position, and the T/SM always mapped to the object position, as Pesetsky states (1995: 58), mapping differences between SubjExp and ObjExp verbs can be traced back to this difference with respect to the thematic roles involved. Consequently, UTAH/UAH can be preserved, since the linking of arguments to grammatical relations is predictable on the basis of a thematic hierarchy in (32).

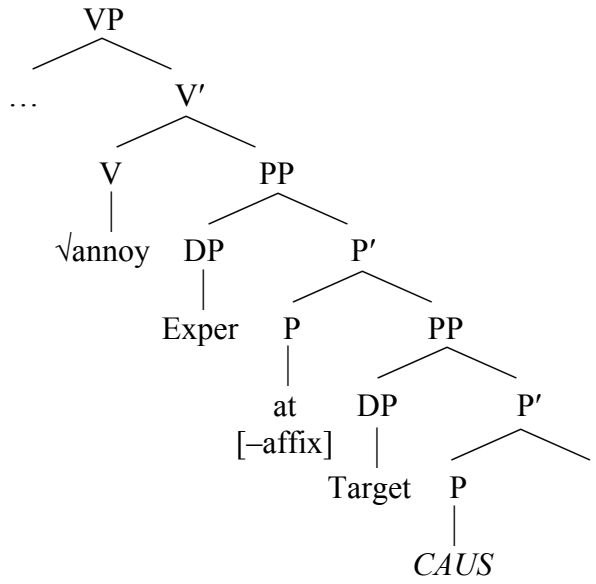
(32) Causer > Experiencer > Target/Subject Matter
(Pesetsky 1995: 59, (166))

However, thus, this approach leads to a new problem, which has to be accounted for: the 'T/SM restriction', i.e. the fact that even though Causer and T/SM are two distinct thematic roles, they can never be realized with the same predicate. To solve this problem, Pesetsky (1995) proposes a 'cascade syntax' for ObjExp verbs, which can account for this restriction. Only in a structure like (33), i.e. without a T/SM, the zero *CAUS* morpheme, which Pesetsky assumes to be base-generated as an independent preposition below the selected arguments of the main verb in the 'cascade structure' can move and adjoin to the bound Root √annoy to form an ObjExp verb, which Pesetsky generally considers to be morphologically complex compositions of the zero causative morpheme and a bound Root. Since the preposition which introduces the T/SM intervenes in (34), and is non-affixal, the movement of *CAUS* is blocked by this element, and, consequently, it cannot be raised to attach to the Root √annoy to form the corresponding ObjExp verb. Since it is, however, a requirement for a [+affix] morpheme of the type *CAUS* represents to adjoin to the head of its cascade, the structure is consequently ruled out.

(33) Structure containing a cause only (Pesetsky 1995: 199, (514))



(34) Structure containing a T/SM and a cause (Pesetsky 1995: 199, (513))



This 'cascade' model cannot be discussed properly here for reasons of space, not least because it will not be at the centre of attention in this study. The empirical status of the T/SM restriction is not completely clear since its validity for languages other than English has been questioned (see e.g. Fábregas & Marín 2015 for Spanish; Biały 2005 for Polish), and Landau (2010: 76) subsumes it under 'peripheral psych properties' (see 2.2). Since it does not play a central role for the discussion of German psych verbs, the interested reader is referred to McGinnis (2000, 2001b) for both critical discussion, and suggestions of how to further develop Pesetsky's proposal in a Minimalist framework (see also Reinhart 2002: 271-274 on the 'T/SM restriction', and explanations for it).

2.1.2.4. Proto-Role approaches (Dowty 1991)

Proto-Role approaches to the linking problem are usually based on Dowty's work on proto-roles and argument selection. Semantic roles are not understood as discrete roles but "a set of entailments of a group of predicates with respect to one of the arguments of each" (Dowty 1991: 552), i.e. entailments derived from the lexical semantics of a predicate. The only roles in Dowty's system are the two cluster-concepts of Proto-Agent and Proto-Patient, which are each characterized by a set of verbal entailments (see 35-36).

(35) *Proto-Agent role entailments*

a. volitional involvement in the event or state

b. sentience (and/or perception)

c. causing an event or change of state in another participant
d. movement (relative to the position of another participant)
(e. exists independently of the event named by the verb)

(36) *Proto-Patient role entailments*
a. undergoes change of state
b. incremental theme
c. causally affected by another participant
d. stationary relative to movement of another participant
(e. does not exist independently of the event, or not at all)
(Dowty 1991: 572)

Depending on the number of entailments an argument is given by the verb it combines with, the argument can bear either (or both) of the proto-roles to varying degrees. Argument selection is regulated by the Argument Selection Principle, and in addition Corollary 1 and Corollary 2 (Dowty 1991: 576):

(37) *Argument Selection Principle*: In predicates with grammatical subject and object, the argument for which the predicate entails the greatest number of Proto-Agent properties will be lexicalized as the subject of the predicate; the argument having the greatest number of Proto-Patient entailments will be lexicalized as the direct object.

(38) *Corollary 1*: If two arguments of a relation have (approximately) equal number of entailed properties, then either or both may be lexicalized as the subject (and similarly for objects).

(39) *Corollary 2*: With a three-place predicate, the nonsubject argument having the greater number of entailed Proto-Patient properties will be lexicalized as the direct object and the nonsubject argument having fewer entailed Proto-Patient properties will be lexicalized as an oblique or prepositional object (and if two nonsubject arguments have approximately equal number of entailed P-Patient properties, either or both may be lexicalized as direct object).

What distinguishes psych verbs from all other classes of verbs, according to Dowty (1991), is that for them both arguments have an equal number of Proto-Agent entailments: psych verbs, both SubjExp and ObjExp, entail (i) that the experiencer has some perception, and is, thus, entailed with the Proto-Agent property ‘sentience/perception’, while (ii) the stimulus causes

some emotional reaction or cognitive judgment in the experiencer, which results in a Proto-Agent entailment for the stimulus. Apart from that, Dowty argues that psych verbs do not have any other entailments for either argument which are relevant for determining the argument selection. Consequently, each argument "has a weak but apparently equal claim to subjecthood" (Dowty 1991: 579). This explains why psych verbs show 'doublets' like in (40).

(40) a. x likes y – y please x
b. x fears y – y frightens x
c. x supposes that S – (it) seems (to) x (that) S
d. x is surprised at y – y surprises x
e. x is disturbed at y – y disturbs x

Following Croft (1986), Dowty further states that SubjExp verbs are always stative, while ObjExp verbs can be either stative or inchoative. The inchoative reading implies a change of state in the experiencer (coming to experience an emotion or a new mental state), yet it does not imply any necessary change or motion in the non-experiencer argument. Consequently, the inchoative reading entails a further Proto-Patient property in the experiencer, undergoing a change of state, which is not present in the stative reading. Therefore, since both arguments are still equally equipped with one Proto-Agent entailment, but the experiencer is additionally given one Proto-Patient entailment, the experiencer argument turns out to be the 'better' Patient and must be realized as direct object according to the *Argument Selection Principle*.

2.1.3. Unaccusativity plus causativity approaches

While most – especially syntactic – approaches to the 'linking problem' are either committed to the unaccusativity or the causativity perspective, some accounts combine both approaches. Pylkkänen (2000) argues explicitly for a separating aspect and causativity, arguing that the central difference between SubjExp and stative ObjExp verbs is that ObjExp verbs are stage-level predicates, while SubjExp verbs are individual-level predicates. Only individual-level predicates are incompatible with causation, which explains the difference between SubjExp and ObjExp verbs. In fact, Pylkkänen (2000), implicitly, argues for dissolving the often implicitly assumed unity of external argument position and the role of causer, as explicitly argued for – at least for languages like Finnish – in Pylkkänen (1999, 2008). Stative ObjExp verbs can be both stative and causative, as she shows for Finnish. However, in their stative use, ObjExp

verbs do not have external arguments, but their subjects are derived subjects. Thus, she combines features of the causativity account with an unaccusativity analysis for stative ObjExp verbs, while she proposes a finer-grained semantic distinction to explain why some stative (ObjExp) verbs form causative structures, while other stative (SubjExp) verbs are not causative. Landau (2010) explicitly combines the unaccusativity account with the causative approach. For him, aspectual properties and agentivity play a crucial role: agentive readings of ObjExp verbs are accomplishments and, in fact, regular change-of-state causatives with a causer as external argument, while the nonagentive eventive readings are causative, but of a different kind. The stative readings, on the other hand, are unaccusative. They do not have an external argument, both of their arguments are generated within the VP. Landau derives this as conclusion from his assumptions (42) and (43) in combination with the thematic hierarchy in (41), which he adopts from Pesetsky (1995).

(41) Causer >> Experiencer >> T/SM

(42) Inherent case is assigned only to internal arguments.

(43) Universally, non-nominative experiencers bear inherent case.
(Landau 2010: 54-55, (112), (114), (115))

The crucial underlying assumption behind Landau's (2010) approach is that nonagentive experiencers are mental locations, i.e. locatives, and as such they are always oblique (or dative). Even if the experiencer looks like a bare object like in English or German Class II ObjExp verbs, it is in fact embedded under a null preposition, which he labels $Ø_{\Psi}$.

2.1.4. Summary

While the 'linking problem' initially dominated the discussion about psych verbs, this problem has been dealt with rather well under different approaches using different strategies as the discussion of the different approaches has shown. Both unaccusativity and causativity approaches as well as Proto-Role approaches can account for the reverse linking pattern in psych verbs in one way or the other. Depending on the individual approach, each account is connected to certain theoretical, or even metatheoretical assumptions and stipulations, which, of course, come at a certain conceptual price. However, abstracting from these, as no linguistic account is free of such limitations, it can be concluded that each of the different families of approaches can deal with the linking problem posed by psych verbs under its particular assumptions, if one is willing to commit to these. Yet the situation changes dramatically, once

the perspective is broadened from the mere linking problem to the more general classification and analysis of psych verbs, which has to take their diverse and flexible behaviour, and 'psych properties' (Landau 2010) into account. Once the approaches to argument linking are connected to these questions as well, the problems, which have caused a lot of controversial debate(s) about psych verbs in recent years, become visible.

2.2. Diverse behaviour of object experiencer verbs

Besides the linking problem, psych verbs have received special attention in the syntax-semantics literature because they not only exhibit the 'reverse' linking patterns described in 2.1, but also because of the diverse behaviour they show with respect to their aspectual/event structure properties, and passivization, as well as features like agentivity, and causation, which turn a classification and analysis of these verbs, especially ObjExp verbs, into a much contested issue, as the mere number of recently published studies on these topics demonstrate (see e.g. Bondaruk et al. 2017a, 2017b; Kim 2017, 2016; Doron 2017a, 2017b; Petersen 2016; Willim 2016; Cheng & Sybesma 2015; Fábregas & Marín 2015; Cornilescu 2015; Kailuweit 2015; Engelberg 2015, t.a.; Cheung & Larson 2014; Alexiadou & Iordăchioaia 2014a, 2014b; Cavallo 2014; Grafmiller 2013; Marelj 2013; Rozwadowska 2012; Verhoeven 2010, 2014, 2015; Temme & Verhoeven 2016, 2017; etc.). While the classification and analysis of SubjExp verbs as stative transitive verbs, most probably individual-level predicates, can be considered to be almost an unanimous consensus (see Iwata 1995; Primus 2006; Landau 2010, etc.), quite the contrary is true for ObjExp verbs: "To sum up, the positions represented in the literature are extremely heterogeneous: with regard to Vendler and Dowty's aktionsart classes and the features 'agentive' and 'causative', they cover the entire range of possible classifications" (Kailuweit 2015: 315). There is literally no consensus about anything in the different approaches proposed in the literature (see also Fábregas & Marín 2015 for an overview): suggestions for analyses of ObjExp verbs range from eventive to stative covering the entire range from (standard) causatives (e.g. Grafmiller 2013; Pesetsky 1995), telic predicates (e.g. Pustejovsky 1991), achievements (e.g. Van Voorst 1992) to activities (Härtl 1999, 2001a, 2001b, 2008), causative states (Arad 1998a, 1998b, 2002; Rothmayr 2009), and inchoative states (Rozwadowska 2000, Marín & McNally 2011, Fábregas et al. 2012). This confusing debate is further complicated by the fact that most of the approaches make claims for ***all*** Class II ObjExp verbs, while others argue that there are crucial distinctions to be made within the group of Class II ObjExp verbs. As will be shown the latter approach seems to be on the right

track, a distinction within Class II ObjExp verbs is necessary to account for their empirical behaviour, and will be argued for here as well.

Besides these much-debated empirical properties, a central motivation since Belletti & Rizzi (1988) has been to account for the peculiar properties of psych verbs, like e.g. 'backward binding'. Landau (2010) presents a detailed cross-linguistic discussion of the properties which have been discussed as 'psych properties' in the literature so far. He classifies these properties into core and peripheral ones: while core properties of all nonagentive Class II verbs include phenomena like no genitive of negation in Russian, no heavy NP shift in English, or obligatory resumption in relative clauses in Greek and Hebrew, core psych properties of stative unaccusative Class II and Class III verbs are the restriction on verbal passives, and periphrastic cauatives, as well as on forward binding (see Landau 2010: 23-64 for detailed discussion). The T/SM restriction, backward binding, and the ban on causative nominalizations are only labelled as 'peripheral properties' by Landau (see 2010: 65-75).

The status of many of these peculiar properties as really being caused by some element inherent to psychological verbs has been challenged, and their status as 'psych property' has been even repudiated. Most famously, a number of accounts (see Zribi-Hertz 1989; Pollard & Sag 1992; Reinhart & Reuland 1993; Bouchard 1995; Iwata 1995; Cançado & Franchi 1999) have offered different explanations for the 'backward binding' facts, which are independent of the 'psych' status of the verbs involved in such constructions, such that "it is safe to conclude that backward binding is not a purely structural phenomena, and hence does not attest to any specific feature in the syntax of psych verbs" (Landau 2010: 73). Similar reasoning is true for the T/SM restriction, which Landau also subsumes under 'peripheral psych properties'.

Consequently, these aspects will not be dealt with here. Not least because Platzack (2012) demonstrates on the basis of a cross-linguistic study that 'backward binding' is a phenomenon which does not exist in V2-languages like Dutch, Scandinavian languages, or German[4], but is restricted to non-V2-languages only, as the cross-linguistic comparison in (44) demonstrates.

(44) a. Pictures of himself$_i$ worry John$_i$/him$_i$. (English)
(Belletti & Rizzi 1988: 317, (70a))

b. *Bilder på sig själv oroar John. (Swedish)
pictures.DEF of himself worry John
'Pictures of himself worry John.'

[4] But see Temme & Verhoeven (2017) for recent experimental work claiming that there might be backward binding effects in German. My informants and I agree with the judgements presented by Platzack (2012).

c. *Myndir af (sjálfum) sér ollu Jóni áhyggjum. (Icelandic)
pictures of self REFL-POSS cause Jon.DAT worry
'Pictures of himself worry John.'

d. *Bilder von einander beunruhigten die Linguisten. (German)
pictures of each other worried the linguists.ACC
'Pictures of each other worried the linguists.'

e. *Bilder von einander gefielen den Linguisten. (German)
pictures of each other pleased the linguists.DAT
'Pictures of each other worried the linguists.'

(examples b. to e.: Platzack 2012: 199, (4))

Since there is no reason to assume that V2-languages differ systematically from non-V2-languages such as English, or Italian, with respect to the general principles of argument structure of verbs like those in (44), "the explanation of this cross-linguistic variation […] must be found in the C-T phase, not in the vP phase," as Platzack (2012: 199) argues. He offers a theoretical explanation associated with the C-T phase why 'backward binding' is not possible in V2-languages: this phenomenon is only found in non-V2 languages since only these languages have an A-bar position within their I(nfl)-domain, which he calls SpecSubjP (following Cardinaletti 2004), that does not exist in V2 languages, most probably as the result of the V2 condition (V-to-C movement). This SpecSubjP is, however, a necessary condition for 'backward binding' to be possible. Therefore, V2-languages like German do not license this kind of construction as opposed to languages like Italian or English. It is worth highlighting again that following this account the property which accounts for the licensing of 'backward binding' is located in the C-T phase, not the verbal ph(r)ase, and, consequently, 'backward binding' does not constitute an argument with respect to the argument structure of German psych verbs. Therefore, 'backward binding' will not be dealt with here, since the focus of this thesis is on argument structure properties within the verbal phrase, not the C-T phase.

For all these reasons, the discussion here will concentrate on some of the 'core properties' which have dominated the discussion in recent years, above all agentivity, passivization, and event structure, since these seem to be especially relevant for the classification and analysis of ObjExp verbs.

2.2.1. Agentivity

Already Grimshaw (1990) points out that some ObjExp verbs can have agentive readings when the non-experiencer argument can be interpreted as acting volitionally (see 45a). Under these readings, the ObjExp verbs behave like ordinary causative verbs (see 2.1.2.1).

(45) a. Anna (deliberately) amused/ frightened/ surprised Peter.
b. Anna's haircut (*deliberately) amused/ frightened/ surprised Peter.

This claim has been reinforced by a number of other studies (see Arad 1998a, 1998b, 2002; Klein & Kutscher 2005; Landau 2010; Alexiadou & Iordăchioaia 2014a, 2014b; etc.). A number of phenomena involving ObjExp verbs have been claimed to be sensitive to agentivity, for instance, clitic doubling and other effects in Modern Greek (Anagnostopoulou 1999), auxiliary selection in Dutch (Zaenen 1993), reflexivization and object extraction in Italian (Arad 1998a 1998b, 2002), absence of genitive of negation in Russian, and the optionality of resumptive pronouns in Hebrew (Landau 2010). Usually these empirical phenomena are taken to indicate a distinction between (potentially) agentive, and non-agentive ObjExp verbs, since a number of ObjExp verbs are reported not to accept agentive readings (see Pesetsky 1995 for English; Bennis 2004 for Dutch; Verhoeven 2010, 2014 for German; Landau 2010 in general). However, contrary to that, Grafmiller (2013) claims that all English ObjExp verbs can have agentive readings. Typological work indicates that differences with respect to agentivity are neither cross-linguistically universal nor are agentivity-sensible effects, such as experiencer-first effects, since languages like Turkish, Yucatec Maya, or Mandarin do not show the agentivity-related behaviour reported e.g. for Greek and German (see Verhoeven 2010, 2014). Despite all the differences, one rather uncontroversial descriptive consensus with respect to agentivity of the ObjExp verbs seems to be that at least some ObjExp verbs can potentially have agentive readings. Consequently, these ObjExp verbs can at least alternate between two different readings.

2.2.2. Event structure and aspectual properties

The assessment and proper classification of the event structure properties of ObjExp verbs turn out to be even more controversial. While the systematic examination of aspectual properties has been a "neglected topic" (Landau 2010: 129) until rather recently, quite contrasting claims have been made: while Van Voorst (1992) claims that all ObjExp verbs are achievements,

Tenny (1994) argues that that they are accomplishments, while Filip (1996) rejects the view that they are telic. Grimshaw (1990) argues that they are accomplishments, while Pesetsky (1995: 30) states that some ObjExp verbs in English are exclusively stative like *worry*, whereas others like *scare* or *terrify* are not. Klein & Kutscher (2005) claim that ObjExp verbs can in fact be of all four Vendlerian *Aktionsart* classes, while Pylkkänen (2000), and Nelson (1999, 2000) show that there is a crucial stative versus eventive distinction for ObjExp verbs in Finnish, also claimed to exist in French by Meinschaefer (2003). Rothmayr (2009) argues that an eventive-stative distinction also holds for German. Arad (1998a) shows on the basis of English, Romance, and Hebrew that ObjExp verbs can have aspectually different readings (see 2.3.3.2).

In more recent work following Marín & McNally's (2011) analysis of reflexive SubjExp verbs in Spanish, Fábregas & Marín (2015) argue that all Spanish ObjExp are 'inchoative states', while Petersen (2016) shows for Brazilian Portuguese that ObjExp verbs fall into three aspectually distinct groups, which she classifies as 'inchoative states', achievements, and accomplishments.

Landau (2010) argues that agentive ObjExp verbs are change-of-state verbs, i.e. accomplishments, whereas nonagentive ObjExp verbs can either be state or achievements. Crucially for him, only agentive Class II ObjExp verbs include a change of state, whereas experiencers in nonagentive Class II do "not undergo a change of state in the aspectually relevant sense" (Landau 2010: 131), however, what is meant exactly by this, is left open.

As with respect to agentivity, the debate is not only confusing because of the different suggestions made in the different proposals, but also because of the scope different studies claim for their proposals: while some analysis make their claims for ***all*** Class II ObjExp verbs uniformly, e.g. Van Voorst (1992), Härtl (1999), others, like Pylkkänen (2000), Arad (2002), or Landau (2010), claim that crucial event structure distinctions have to be made.

2.2.3. Passivization

The behaviour of ObjExp verbs with respect to passivization, especially verbal passives, has been a controversial issue as well. Unaccusativity accounts like Belletti & Rizzi (1988) argue that ObjExp verbs as unaccusative verbs do not have verbal passives, but their passives are purely adjectival, which Grimshaw (1990) also claims for English, however for different reasons. Others like Pesetsky (1995) reject this view showing that at least those ObjExp verbs, which are not exclusively stative, do have verbal passives (see 46), while similar empirical

observations have been made for numerous other languages as well (see e.g. Tenny 1998; Reinhart 2001; Klein & Kutscher 2005; Kutscher 2009; Landau 2010).

(46) a. Odd noises were continually scaring Sue.
b. Sue was continually being scared by odd noises.
(Pesetsky 1995: 30, (72a), (73a))

Despite the different claims made, there seems to be no denying the fact that while some ObjExp verbs do have verbal passive, certainly not all ObjExp verbs allow for verbal passivization in the same way in all languages.
Landau (2002, 2010) suggests that verbal passivization with ObjExp verbs is restricted in two ways, which lead to his cross-linguistic 'Psych Passive Typology'. Firstly, a general cross-linguistically valid restriction applies based on the aspectual properties of ObjExp verbs: stative ObjExp can never have verbal passives because they are unaccusative, while agentive ObjExp verbs universally show verbal passives since they are standard transitive verbs. For eventive but nonagentive verbs a second language-specific constraint comes into play: these verbs might have verbal passives in what Landau calls 'Type A languages' like English, Dutch or Finnish, while they cannot have verbal passives in 'Type B languages' like French, Italian or Hebrew. Crucially, the difference between Type A and Type B languages depends on whether the respective language offers one of the two parametric options which allows passivization of quirky objects in (47), since nonagentive experiencers are oblique objects embedded under a silent preposition $Ø_{\Psi}$ in Landau's approach.

(47) Strategies for passivization of quirky objects (Landau 2010: 48):
a. *P-stranding*: The preposition that governs the object is stranded and reanalysed with the verb.
Pseudopassive: $[_{TP}\ [_{DP}\ Exp]_1\ [_{T'}\ Aux\ [_{VP}\ [_{V}\ V_{PASS} + Ø_{\Psi}\ [_{DP}\ t_1]]]]]$
b. *Pied-Piping*: The preposition that governs the object is carried along to the subject position.
Quirky passive $[_{TP}\ [_{PP}\ Ø_{\Psi}\ [_{DP}\ Exp]]_1\ [_{T'}\ Aux\ [_{VP}\ [_{V}\ V_{PASS}\ [_{PP}\ t_1]]]]]$

Language like English and Dutch which independently of psych verbs allow for P-stranding and pseudopassives are languages of Type A (47a), as are languages like Finnish which allow for quirky passives (47b). To summarize: "Verbal passives of nonagentive ObjExp verbs will

be available only in languages allowing either pseudo-passives or (oblique) quirky passives" (Landau 2010: 49).

2.2.4. Classifications and analyses of ObjExp verbs

As the discussion in 2.2 has revealed so far, the debate(s) about how to deal with the empirical behaviour of ObjExp verbs, which show quite diverse behaviour in many domains like agentivity, event structure, or passivization, is even more fragmented than with respect to the 'linking problem'. And as opposed to the 'linking problem', for which any of the suggested analyses could find a way to deal with the general linking pattern of experiencers, not all approaches seem to be equally successful in the attempt to classify and analyse ObjExp verbs. While some of the problems can be traced back to the insufficient empirical basis of some of the claims in the literature, as argued by Grafmiller (2013), certainly not all of the immense diversity in the behaviour of ObjExp verbs can be explained away like that. Not least because a fast-growing number of recent empirical and experimental studies (see e.g. Scheepers et al. 2000; Haupt et al. 2008; Bader & Häussler 2010; De Schepper & Lamers 2010; Verhoeven 2010, 2014, 2015; Grafmiller 2013; Levin & Grafmiller 2013; Lamers & de Hoop 2014; Möller 2015; Fanselow, Häussler & Weskott 2016; Temme & Verhoeven 2016, 2017; Pijpos & Speelman 2017; Ellsiepen & Bader 2018) has hardly been able to settle any of the controversial problems by reinforcing one of the numerous claims, while falsifying all the others. Rather what seems to be the crucial bottom line of these debates is that the group of Class II ObjExp verbs does not display homogeneous behaviour with respect to all the much-discussed issues such as agentivity, event structure, and passivization. Consequently, despite all the controversies, at least the empirical observation that the behaviour of experiencer verbs is not uniform cannot be denied. And this holds both for these verbs as a group, and with respect to some of the individual lexical items, since the same verb can have different readings, which have consequences for other properties of the respective verb as well. Consequently, only analyses which acknowledge these facts, and which try to come up with an analysis of this diverse behaviour of ObjExp verbs, are further reviewed in the remaining sections.

2.2.4.1. Arad (1998a, 1998b, 2002)

Arad's (2002) account is different from almost all other accounts discussed here in that it is not couched in a lexicalist approach to argument structure but in Distributed Morphology, i.e. a

generative constructivist/neo-constructionist framework. The central idea she introduces and builds her analysis of ObjExp verbs upon is that word formation consists of two different types of elements: Roots, the lexical kernels a language has, and features. Roots are devoid of all functional material and category neutral. Only by combining with the category features like e.g. *v*, they become actual verbs. Consequently, a verb can form different types of verbs depending on the feature bundles or verbal category morphemes of a different kind or different semantic 'flavour' they combine with as (48) illustrates.

(48) a. √root + V_a = stative
b. √root + V_b = causative
c. √root + V_c = inchoative

This basic idea is central to her account of the diverse behaviour of ObjExp verbs, since she points out, that, crucially, Class II ObjExp verbs can have three different readings (see 49), which differ with respect to whether they include (i) an agent, which deliberately does something to bring about a mental state in the experiencer, and (ii) a change of state in the experiencer, resulting in the characteristics in (50).

(49) a. Nina frightened Laura deliberately/ to make her go away. (agentive reading)
b. Nina frightened Laura unintentionally/ accidentally. (eventive reading)
c. The explosion/ the noise/ the thunderstorm frightened Laura. (eventive reading)
d. John/ John's haircut annoys Nina. (stative reading)
(Arad 1998b: 4-5, (2), (3), (4a))

(50) a. *agentive reading*: agent and change of state in the experiencer
b. *eventive reading*: no agent, but change of state in the experiencer
c. *stative reading*: neither agent nor change of state in the experiencer

Arad notices that some verbs like *concern* or *worry* only allow for stative readings, while others like *surprise* "are hard to construe as stative [since] [t]hey inherently encode a change of state" (1998b: 6), whereas verbs like *frighten* allow all three readings. All the peculiar psych properties only exist with the stative verbs (as Arad 1998a extensively discusses).
All three different readings are formed on the basis of the same Root, e.g. √fright, while they differ with respect to their syntactic structure, i.e. the verbal morphemes they are combined with as schematically depicted in (48). On the agentive reading the Root is combined with the

standard little *v* head, whereas on the stative reading it is combined with a head which is stative and causative, labelled 'stative little *v*'[5]. Arad assumes that ObjExp verbs are universally causative, however, the kind of causativity involved with agentive and stative ObjExp readings differs. On the agentive reading an intentional agent brings about a change of state in the experiencer, the temporal sequence of the event is similar to standard causative verbs (see 51a): after the bringing about event, the result state holds independently, the agent is not part of the event of the mental state. On the contrary, on the stative reading (see 51b) there is no change of state in the experiencer (and no agent), "the experiencer is *at* a specific mental state as long as she perceives the stimulus (or has it on her mind)" (Arad 2002: 20). Consequently, on the stative reading the stimulus has to co-occur with the mental state for it to hold.

(51) a. action mental state

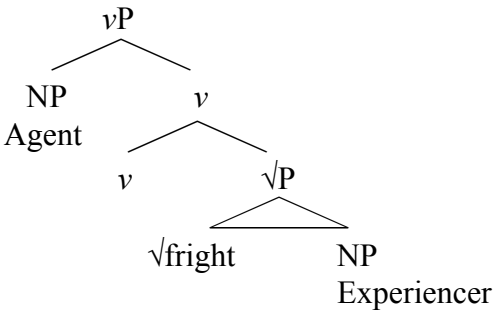
- - - - - - - - - - ▶ ..... (indefinite)

b. perception of stimulus _____ stop

mental state ..... stop

This semantic difference between the different readings of the same verb is encoded in the different syntactic structure the same Root can combine with under Arad's (2002) approach. Under the agentive reading the root like e.g. √fright combines with a standard transitive little *v* head, which results in a standard transitive structure with the agent as the external argument (see 52). The status as agent is derived structurally from being in the specifier of *v*, while the object is interpreted as experiencer because of the type of Root involved, however, 'experiencer' only serves as a descriptive label here, it is not a syntactically relevant notion.

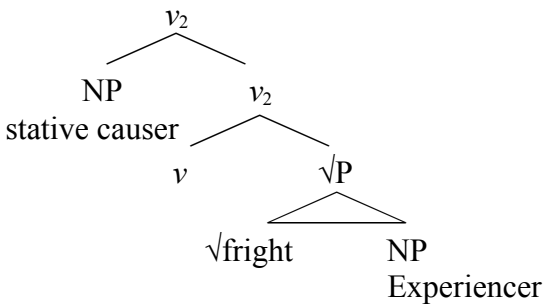
(52) Agentive reading of Class II ObjExp verbs (Arad 2002: 24, (16))



[5] In her most recent analysis, Arad (2002) does not mention the eventive reading contrary to Arad (1998a, 1998b).

On the stative reading, the same Root is merged with a different 'stative little *v'* head, which contributes the interpretation of stative causation. The element in its specifier is accordingly interpreted as a stative causer, and the object is marked with dative case because of the properties of this head (see 53).

(53) Stative (causative) reading (Arad 2002: 25, (18); stative little *v* is labelled v_2 by Arad)



While the two 'flavours of *v*' differ with respect to the morphological spell out of the object-case they assign (accusative versus dative), and their semantic content, i.e. one contributes the interpretation of an agentive or active event, while the other one gives the interpretation of stative causation, it is important to note what they have in common according to Arad: "Both active and stative *v* introduce an external argument in their specifier and check object case" (2002: 25). This means, Arad (2002) assumes that active and stative little *v* both have the feature in common which she calls the 'verbalizing property' (turning a Root into a verb), and the feature 'transitivity' (i.e. introducing an external argument, and agreeing with the object), while they differ with respect to the feature 'semantic content'.

One further step is needed to account for the stative readings of accusative Class II ObjExp verbs, since the structure in (53) is in fact the representation Arad (2002) proposes for Class III ObjExp verbs with dative-marked objects. Arad explicitly assumes that the dative on Class III ObjExp verbs is not inherent but assigned structurally by stative little v in this configuration. The stative accusative Class II ObjExp verbs are formed by combining the Root with a 'defective' *v* head, which shares the feature 'semantic content' with the stative little *v* of (53), however not its 'transitivity property', i.e. it does not agree with the object. Consequently, stative Class II ObjExp verbs are semantically similar to stative Class III verbs, yet their experiencer objects are lexically[6] case-marked. This combination of the assignment of accusative case in the absence of an agent is, according to Arad (2002), the explanation why

[6] In Arad's terminology, this is equivalent to 'inherent' case marking in the sense of Belletti & Rizzi (1988).

stative Class II ObjExp verbs show the peculiar 'psych properties', because these are associated with the 'defective' *v* involved in the formation of these verbs.

To sum up, Arad (1998a, 1998b, 2002) argues for a causative nonraising analysis for all ObjExp verbs, and explicitly against an unaccusative raising analysis for any of the ObjExp verb forms. In her approach, the non-experiencer argument is always base-generated higher than the experiencer in the specifier of a *v* projection. The different readings can be distinguished on the basis of different semantic 'flavours' of the *v* involved: agentive ObjExp verbs are formed with a standard transitive *v*, dative Class III ObjExp verbs with a transitive stative causative *v*, while accusative Class II verbs result from the combination of the Root with a 'defective' *v*, which does not have the transitivity properties *v* usually has.

While a more thorough evaluation of this account will follow in 5.2.2.2 assessing the proposal in relation the empirical patterns to be explained in the domain of German psych verbs, it suffices here to point briefly to the major advantages and shortcomings of Arad's proposal. On the one hand side, certain elements of the analysis seem rather problematic both conceptually as well as empirically: on the conceptual side, the introduction of stative little *v* appears to be rather stipulative, since this head, even though it might be theoretically well-defined within her system of features provided by UG, is exclusively needed to account for the psych verbs she discusses. Furthermore, empirically, the claim that Class III dative and agentive Class II share the transitivity property is most problematic, since there is an overwhelming consensus in the literature to consider Class III verbs as unaccusative (see e.g. Perlmutter 1983; Belletti & Rizzi 1988; Legendre 1989; Fanselow 1992; Pesetsky 1995; Reinhart 2001; McFadden 2004, 2006, etc.). Secondly, given that the different readings of ObjExp verbs differ syntactically only with respect to the *v* head introducing their external arguments in Arad's analysis, no empirical syntactic differences which can/have to be attributed to the status of the experiencer argument are expected, at least not between 'regular' stative dative Class III ObjExp verbs and 'regular' agentive accusative Class II ObjExp verbs, i.e. experiencers should behave rather similar under these readings with respect to syntactic phenomena, since they only differ with respect to the semantic interpretation of their events[7]. On the other hand, Arad's approach(es) are among the

[7] Please note that there is a crucial difference here to Arad (1998b): here, two clearly different syntactic structures are proposed for the different readings, distinguished by "the identity of the V which heads their VP" (p. 15) (see i-ii): while the agent or causer of the agentive reading is introduced in its canonical position in the specifier of *v*, the stative causer, which is also called 'stimulus', is introduced in the specifier of an 'upper VP'. Thus, it is an 'external internal argument', and "forms part of the temporal path of the event" (Arad 1998b: 16). This follows from her assumptions about the two domains of the VP: while "the domain of the object/internal argument", the lower VP, is associated with undergoing change, measuring out the event, telicity, etc., "the domain of the external argument", the upper *v*, is related to acting, causing change, etc. Arad further suggests that there is also a "lexical VP shell" besides the standard *v*P shell, which accommodates verbs that have more than two arguments, but no agent like the stative ObjExp verbs. The stative causer is not an external argument, since it is not in the spec of *v*P,

very few which try to explain the differences in the diverse behaviour of ObjExp verbs relating them to an explicit theory of argument structure, and the 'lexicon-syntax interface'. Reviewed from that angle, Arad's constructivist/neo-constructionist Distributed Morphology account is the only one to offer an explicit model accounting for how precisely the different readings of ObjExp verbs are formed, even though one might take issue with some or many of the concrete principles of her account. More in general, this hints at the fact that constructivist/neo-constructionist approaches to argument structure naturally are in general better equipped to deal with the variable behaviour of individual lexical items/Roots as exhibited by ObjExp verbs.

2.2.4.2. Pylkkänen (2000)

Pylkkänen (2000) argues that Finnish psych verbs fall into four different groups along the two dimensions of causativity and stativity (see TABLE 3). SubjExp verbs are different from ObjExp verbs in that only the latter are causative, while the former are not.

TABLE 3: Classification of Finnish psych verbs (Pylkkänen 2000: 419, Table 1)

	noncausative ExpSubj-ThemeObj	**causative** ThemeSubj-ExpObj
stative	(I) Subj-NOM, Obj-PAR *inhoa* 'find disgusting' *sääli* 'pity' *sure* 'be sad'	(II) Sub-NOM, Obj-PAR *inho-tta* 'disgust' *sääli-ttä* 'cause to pity' *sure-tta* 'cause to be sad'
Corresponding in English	*fear, love, hate*	*concern, perplex, bother*
nonstative	(III) Subj-NOM, Obj-ELA *raivo-stu* 'become furious' *kauhi-stu* 'become terrified' *viha-stu* 'become angry'	(IV) Subj-nom, Obj-ACC/PAR *raivo-stu-tta* 'cause to become furious' *kauhi-stu-tta* 'cause to become terrified' *viha-stu-tta* 'cause to become angry'
Corresponding in English		*frighten, surprise, amuse*

nevertheless, there is causation. The causative relation it introduces is stative: "perception of a stimulus (the subject) by the experiencer (the object) triggers a mental state in the experiencer", thus, the stative causer only "triggers a state, but does not bring about a change of state" (Arad 1998b: 15).

(i) Agentive causative reading: $[_{vP}$ agent/causer $[_{v}\ v\ [_{VP}$ NP [V...]]]]
(ii) Stative causative reading $[_{VP}$ stimulus $[_{V}$ V $[_{VP}$ NP [V…]]]]
(based on the trees Arad 1998b: 15, (26))

Furthermore, even though the structures do not indicate this difference, Arad states that "[t]he object position is canonical on the agentive reading, and non-canonical (similar to indirect or prepositional objects) on the stative reading" (1998b: 17).

Crucially, however, both groups are also divided according their aspectual properties in two subgroups: stative versus nonstative. While nonstative ObjExp verbs are standard change-of-state causatives, i.e. accomplishments, stative ObjExp verbs in Finnish are ***both*** stative and causative (see also Nelson 1999, 2000 for a similar analysis and classification).

The fact that the object in (54) (*hyttysi-ä* 'mosquitos') appears in partitive case as with all atelic verbs in Finnish (see also Kiparsky 1998), as opposed to accusative with telic verbs (see 55), as well as their unavailability to appear in the progressive, and the fact that they (like all statives in Finnish) do not have a habitual reading in the present shows that these verbs are stative. However, these stative ObjExp verbs are clearly marked as causatives morphologically as highlighted in (54b).

(54) a. Mikko inhoa-a hyttysi-ä. (Finnish)
Mikko.NOM findDisgusting-3SG mosquitos-PAR
'Mikko finds mosquitos disgusting.'

b. Hyttyset inho-**tta**-vat Mikko-a.
mosquitos.NOM findDisgusting-**caus**-3PL Mikko-PAR
'Mosquitos disgust Mikko.'

(55) a. Mari paha-stu-tti Jussi-n.
Mari.NOM bad-INCH-CAUSE-PAST Jussi-ACC
'Mari caused Jussi to become upset.'

b. Presidentti ikävy-sty-tti Jussi-n.
president.NOM boredom-INCH-CAUSE-PAST Jussi-ACC
'The president caused Jussi to become bored.'

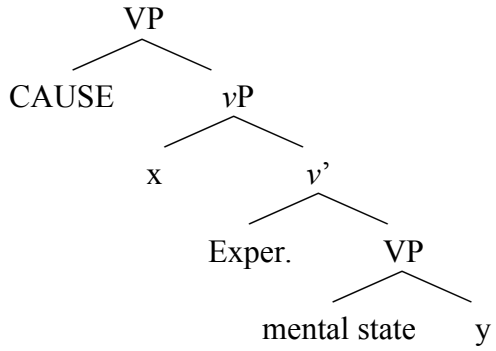
(Pylkkänen 2000: 418, (1a-b), (40b-c))

Arguing explicitly for a separation of causativity from aspect in general, Pylkkänen (2000) analyses these verbs as 'causative states', attributing the difference between SubjExp and ObjExp verbs to the different kind of their stativity: while ObjExp verbs are stage-level predicates, SubjExp verbs are individual-level predicates (see Carlson 1977; Diesing 1992), which are incompatible with causation.

In her analysis, Pylkkänen makes use of both the causative analysis as well as the unaccusativity analysis. Crucially, she points out that stative and nonstative ObjExp verbs have a fundamentally different structure, which requires a different kind of analysis for each of them respectively: for nonstative ObjExp verbs, she sticks to the standard causative ('nonraising') analysis with a causer which is realized as the external argument as proposed by Pesetsky (1995), Arad (1998a, 1998b), and others. For stative causatives, however, Pylkkänen proposes

a ‘unaccusative’ raising analysis in the style of Belletti & Rizzi (1988). Based on the observation that stative causative ObjExp verbs in Finnish do not have verbal passives, she argues that these verbs do not have external arguments, but that their subjects are derived subjects. Therefore, stative causative ObjExp verbs have a causative head, which is interpreted as a perception eventuality involving the participants of its complement, but lack an external argument introducing head (in Pylkkänen’s terminology) *v* as in (56). Contrary to that, nonstative ObjExp verbs involve both a causative head introducing a causative event, and a higher external argument introducing-head introducing the participant of the causing event. This means that while the nonstative ObjExp verbs are not derived from their noncausative SubjExp counterparts, the stative ObjExp verbs are. Consequently, this analysis predicts that the mental state described by the noncausative stative version is entailed by the stative causative. Pylkkänen argues that the fact that the same selectional restrictions hold for causative and noncausative stative ObjExp verbs[8], which do not disappear by causativization, show that the stative causatives are in fact derived from their noncausative counterparts.

(56) Stative causative (Pylkkänen 2000: 440, (51))

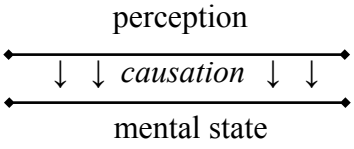


This analysis captures a number of differences between stative and nonstative ObjExp verbs also observed by Pylkkänen (2000). Firstly, stative causatives and nonstative causatives differ semantically independent of their different aspectual properties: the subject of stative causatives is the ‘Target of the caused mental state’, while the subject of the nonstative ObjExp verb is a participant of the causing event bringing up the change of state, and not thematically related to the complement predicate. Secondly, the temporal sequence of stative and nonstative causative eventualities is different: while the causing event in the noncausative brings about a change of

[8] The evidence for this come from the verb *sääli* ‘pity’, which requires an animate object both in its SubjExp stative use as well as in its stative causative ObjExp use, a fact which is puzzling if the subject of causative psych verbs does not receive a theta role from the noncausative predicate, i.e. if it only receives the (external) causer theta role from the causing predicate. Pylkkänen takes this to prove that stative causative ObjExp verbs are indeed derived from their noncausative counterparts.

state, the causing eventuality is interpreted as the perception of the theme of the caused mental state by its experiencer, the causative describes "a causal relation between a state of perception and a mental state, the former of which sustains the latter" (Pylkkänen 2000: 432):

(57) s-level causative:



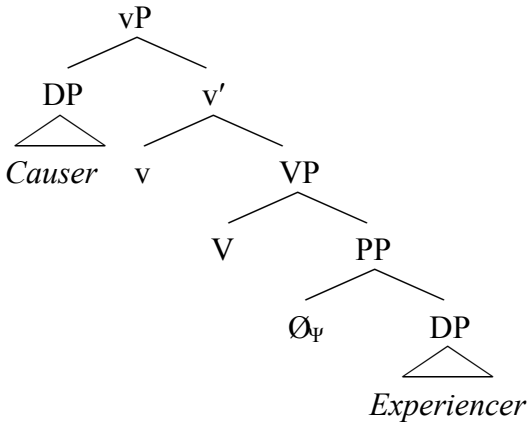
To summarize, Pylkkänen (2000) argues for a crucial distinction to be made in the classification and analysis of Class II ObjExp verbs on the basis of their event structure properties in stative versus nonstative, both for SubjExp as well as ObjExp verbs. She shows that some Finnish Class II ObjExp verbs are both stative and causative, and, therefore, argues for a separation of causativity and aspect. On the basis of the semantic properties of Finnish ObjExp verbs she shows that the interpretation of stative verbs is not necessarily simple. Due to a number of differences between stative and nonstative causative ObjExp verbs, she argues that these two groups involve fundamentally different syntactic structures, which is taken into account by the proposal that two different kinds of analyses are needed for the two groups of verbs: a nonraising analysis for the nonstative causatives, and an 'unaccusative' raising for the stative causatives.

2.2.4.3. Landau (2010)

As already sketched out, Landau (2010) also combines elements of the causativity and the unaccusativity approaches, and his account for the linking problem is based on the crucial assumption that experiencers are mental locations, i.e. locatives, and as such they are always oblique (or dative). Universally, non-nominative nonagentive experiencers are inherently case-marked obliques, even if they appear as accusative-marked objects, they are in fact always embedded under a silent P, which he labels $Ø_{\Psi}$. This is the general property of experiencers, and what is key to his account of the diverse 'psych properties' (as discussed for passives in 2.2.3). Crucially, in his attempt to deal with the second problem set of the diverse behaviour, classification, and analysis of ObjExp verbs, Landau assumes crucial aspectual and agentivity differences, which distinguish different readings of Class II ObjExp verbs. While agentive readings of Class II ObjExp verbs are standard change-of-state verbs, i.e. accomplishments, nonagentive readings are either achievements or states, most importantly, in his words "they do not undergo a change of state in the aspectually relevant sense" (Landau 2010: 131). Both

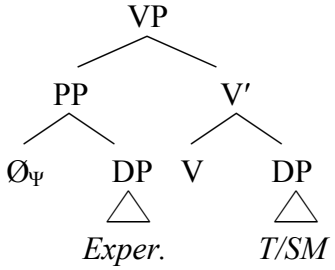
agentive and nonagentive eventive readings have a causer argument, which is introduced by the external argument-introducing head *v*. What distinguishes agentive and nonagentive eventive readings is the status of their experiencer. Under the agentive reading, Class II ObjExp verbs are in fact regular transitive verbs: their 'experiencer' argument is a standard accusative direct object, since the $Ø_{\Psi}$ can be dropped in these contexts leaving a bare DP, which could also be called a regular 'patient'. For nonagentive eventive Class II ObjExp, however, the structure is like in (58): they have a causer argument, which is an external argument, introduced by *v*, but their experiencer is oblique, and inherently case marked.

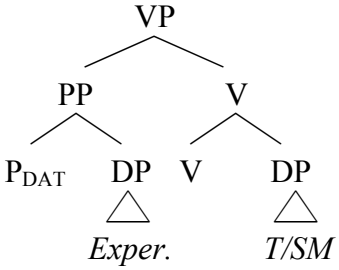
(58) Nonagentive eventive Class II ObjExp verbs (Landau 2010: 8, (12a))



Contrary to that, stative readings are unaccusative verbs without an external argument-introducing *v* as in (59a). In fact, this structure is identical to his structure for stative dative Class III ObjExp verbs with the only difference being in the nature of the preposition governing the experiencer (see 59b).

(59) a. Stative Class II ObjExp[9] b. Class III ObjExp verbs (Landau 2010: 8, (12b))





Landau derives the unaccusativity of stative Class II ObjExp verbs on the basis of his assumptions (61-62) that inherent case is only assigned to internal arguments, and that all non-

[9] This representation is derived from my interpretation along the lines of Landau's (2010: 88) example (168b) (see 63), since he never explicitly discusses the structure of the stative Class II ObjExp verbs as such.

nominative experiencers bear inherent case, in combination with the thematic hierarchy in (60), which he adopts from Pesetsky (1995).

(60) Causer >> Experiencer >> T/SM

(61) Inherent case is assigned only to internal arguments.

(62) Universally, non-nominative experiencers bear inherent case.
(Landau 2010: 54-55, (112), (114), (115))

Crucially, this analysis depends on the assumption that the nature of the non-experiencer argument is different in agentive and nonagentive eventive readings, as opposed to stative readings: it is a causer, which is an external argument, in the former, and a T/SM in the latter. Furthermore, it is important to notice that Landau adopts the distinction Pesetsky (1995) establishes between causer and T/SM, however, for Pesetsky the crucial fact about this difference is that objects of SubjExp verbs are universally T/SM arguments, while they never occur in causative ObjExp verbs. This is the principle regulating the linking problem for Pesetsky. Landau does not elaborate on how this difference is motivated or derived in his account. Consequently, the causer versus T/SM distinction loses its explanatory power for the linking problem, and Landau has to rely completely on his assumption – or stipulation – that non-nominative experiencers are universally oblique, and thus inherently cased-marked by a (possibly silent) preposition. Without this assumption, the distinction between SubjExp and ObjExp verbs, and, thus, the solution to the linking problem would be lost.

Two important predications of Landau's account are that, firstly, "experiencers should display PP/dative behavior" (2010: 22, (42a)), i.e. the syntactic behaviour of nonagentive experiencer objects should be similar to the behaviour of prepositional objects and other oblique arguments like e.g. goals, or locatives, given the similarities in their syntactic structures. And, secondly, that "[t]he case of the experiencer should resist syntactic suppression" (Landau 2010: 22, (42b)). While the former will be tested extensively with German data in 4.3, the evaluation of the latter is difficult, at least for German, since the most reliable tests such as passivization (see Woolford 2006) do not to work given that these verbs are also unaccusative. However, evidence from other languages like Polish, which show genitive of negation, will be discussed in chapter 5, which allows to evaluate this claim.

2.2.4.4. Grafmiller (2013)

Grafmiller (2013) radically differs from all other approaches reviewed so far, both with respect to the underlying grammatical model as well as the claims he makes. Based on an impressive empirical basis of both corpus as well as experimental data, he argues that, in fact and contrary to almost all claims in the literature, ***all*** English ObjExp verbs can have agentive readings, independent of the semantic roles or aspectual properties involved with these ObjExp verbs because agentive interpretations result from a combination of semantic and pragmatic factors (Grafmiller 2013: 216): agentivity is underspecified in ObjExp verbs (just as in many other causative verbs), and agentive interpretations arise from processes of pragmatic enrichment, which make use of lexical meaning, context, and general world knowledge (see Grafmiller 2012). His major claim is that the behaviour of English ObjExp verbs should best be explained "in terms of the way the emotional situations the verbs describe are conceptualized in given contexts" (Grafmiller 2013: 262). The diverse empirical behaviour reported for ObjExp verbs by different authors do not show structural differences, Grafmiller argues, but is a reflex of "the tendency for a given verb to be construed as a mental state caused by an external stimulus, or as an attitude toward some object" (2013: 262). The construals of individual verbs are potentially quite flexible, but at the same time sensitive to the speaker's knowledge of the emotion concept denoted by the verb, as he points out. Consequently, various differences in the individual speaker's knowledge about the emotional concepts denoted by a specific verb are predicted to increase or decrease the likelihood of a construal in a specific context. More in general, he questions and criticizes 'structural approaches' like the ones presented in this section, which (try to) show categorical distinctions among (subclasses) of psych verbs, be it on the basis of syntactic or semantic factors, since his findings seem to indicate that the behaviour of ***any*** given ObjExp verb (in English) is gradient and probabilistic. He, therefore, argues that his data support a quantitative, usage-based approach to grammar, like probabilistic grammars or exemplar-based approaches.

While the general questions and larger metadebate about grammar models behind Grafmiller's claims are certainly beyond the scope of this thesis, a clear question with respect to Grafmiller's claims can be deduced for the examination of German psych verbs to be undertaken here: are there any clearly grammatical patterns detectable, which cannot be explained by the individual speaker's conceptual knowledge, or other conceptual factors, but constitute core principles of the grammar which explain the diverse behaviour of ObjExp verbs? Whereas many of the metatheoretical arguments, and empirical claims Grafmiller makes for English, cannot be

discussed and evaluated here, his generalized claims about 'structural approaches' can and should be tested against the backdrop of German data.

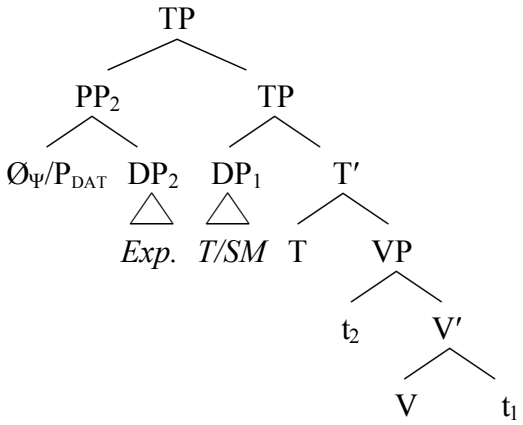
2.2.4.5. Summary

The discussion in this section has shown that while almost all approaches can handle the first problem set, the 'linking problem' rather well in one or the other way, the second problem set of the diverse behaviour of psych verbs, especially ObjExp verbs is more challenging for many approaches. One fact, which has emerged from the debate is that there is no denying the fact that ObjExp show a quite diverse behaviour, which can hardly be accounted for by treating them as one homogeneous group of verbs because such approaches, inevitably, fall short on some aspects. However, while different approaches can deal with the challenge that ObjExp verbs are not a homogeneous group, the diverse behaviour observed with individual lexical items/Roots, i.e. the fact that the same lexical item can have different readings with different grammatical properties with respect to agentivity, passivization, etc., as shown by Arad (1998a, 1998b), Landau (2010), and others is a greater challenge for most accounts. Approaches, which maintain the assumption that such empirical differences can be traced back to grammatical differences (all presented here except for Grafmiller 2013), have to account for that in their classification and analysis of psych verbs. Basically, two different strategies can be distinguished: while a number of accounts simply ignore, or seem not to be aware of the diverse behaviour of ObjExp (see e.g. Belletti & Rizzi 1988[10]; Van Voorst 1992; van Gelderen 2018; Wegener 1999, 2001; Primus 1999a, 1999b; Härtl 1999; see also the literature review about German in 3.3), other approaches acknowledge the diverse behaviour, but focus on some aspects while not explicitly discussing the diverse behaviour, e.g. Pesetsky (1995: 30), who mentions the existence of exclusively stative ObjExp verbs in English, but does not further elaborate on this fact and the consequences this has for his proposal to uniformly analyse ObjExp verbs as (eventive) causative verbs with a causer as external argument. Others like Levin & Rappaport Hovav explicitly acknowledge the aspectual diversity ("frighten verbs are causative – whether or not they are stative" (2005: 15)), however, without discussing any further how this could be implemented in their system of argument realization.

[10] Even though Belletti & Rizzi (1988) do not explicitly state it, Landau is right in pointing out that their "analysis was (implicitly) limited to nonagentive verbs" (2010: 138, endnote 8). From Belletti & Rizzi's brief discussion of agentive readings, could be followed that they implicitly make this distinction, even though they formulate their analysis as being valid for all ObjExp verbs, which, obviously, might cause confusion.

Even Landau (2010: 130), who gives an impressive cross-linguistic discussion of the diverse behaviour with respect to 'psych property' phenomena, and builds his analysis on the basis of event structure and agentivity differences between ObjExp verbs, leaves open the question of how to account for these differences, and how to relate them in a theory of argument structure. He only briefly mentions that this could either be handled under lexicalist approaches assuming aspectual contrasts among various guises of the same lexical verb, or constructional approaches conceptualizing that aspectual information is encoded in the syntax in form of functional heads. Especially his analysis of the stative ObjExp variant is not entirely convincing. While nonagentive eventive uses of Class II ObjExp verbs are causative, stative Class II verbs seems not to be for him. Stative Class II ObjExp are unaccusatives as he theoretically derives from his assumptions, and their structure seems to be exactly same as the syntactic representation for dative Class III ObjExp verbs, which is never explicitly discussed but can be deduced from representations like in (63). This raises not only conceptual problems, which Landau does not address, but also empirical questions, as the further discussion will show.

(63) Stative psych verbs: LF (Landau 2010: 88, (168b))



Arad (2002) appears to be the only analysis which explicitly tries to describe how these difference among ObjExp verbs can be implemented in a comprehensive analysis of their event structure, and especially how to deal with the problematic case of ObjExp verbs which are stative and causative at the same time.

2.3. Summary and conclusions

While different approaches to the 'linking problem' have proposed different strategies by postulating a finer-grained syntax, such as e.g. the unaccusativity approach of Belletti & Rizzi

(1988), a finer-grained argument structure (see Grimshaw 1990), finer-grained semantics, such as Wechsler (1995), or Pesetsky (1995), the latter in combination with a 'cascade syntax', or a different theta theory (Dowty 1991), or combinations of these strategies, basically all of them have been successful in providing a solution to the linking problem. However, the situation is different with respect to the second problem set posed by psych verbs: their diverse and flexible behaviour. Hardly any of the approaches which tries to account for the diverse properties of psych verbs has been successful in providing a universally acknowledged explanation, which can account satisfactorily for all the observed patterns. There seems to be not even a consensus about the appropriate empirical description and characterization of the properties of ObjExp verbs in the literature. Consequently, the remaining challenges in the study of psych verbs are primarily, firstly, to get a clearer picture with respect to the empirical descriptions given the controversial state of the debate, in order to, secondly, gain valid generalizations about the diverse behaviour of ObjExp verbs, which, thirdly, can lead to a clearer picture about their classification, and, fourthly, an analysis of their diverse behaviour. While, fifthly, all this has to be related to the solution of the linking problem.

As the discussion has shown the most promising theoretical accounts are those which acknowledge the need to assume different (sub)groups, and maybe different analyses for different types of ObjExp verbs since these verbs are not a homogeneous group (Pylkkänen 2000; Arad 2002; Landau 2010). Consequently, these approaches will be used as a first baseline empirical findings will be evaluated against. The fact that Arad's (2002) decompositional study is the only one which tries to give an explicit account of how the diverse behaviour of ObjExp verbs can be a linked to a theory of the lexicon-syntax(-semantics) interface provides another argument that decompositional approaches seem to be especially well-equipped for this complex task.

Chapter 3 : German psych verbs

3.1. Data patterns

Verbs with experiencer arguments can occur in a great number of different syntactic constructions in the standard variety of Modern German, differing both in case and the number of arguments; see (64-75) for an overview of the constructions, which have been subsumed under label psych verbs (based on Klein & Kutscher 2005: 4-5, (2)-(14)).

In one-place predicates, the only argument is an experiencer, which usually bears nominative, but accusative and dative are also possible options in such constructions (see 64). However, constructions like (64b-d) are clearly archaic (see Doval's 2011 corpus study; see Bayer 2004 for an analysis of these verbs), and not productive any longer. Besides, their distribution is also subject to specific dialectal variation (see Wegener 1985: 178-180). One place-experiencer verbs are only productive in the nominative version like in (64a) (see Wegener 1999: 192).

(64) a. Ich staune.
1SG.NOM be.astonished.PRS.1SG

b. Ich friere.
1SG.NOM be.cold.PRS1SG

c. Mich friert.
1SG.ACC be.cold.PRS.3SG

d. Mich dünkt, dass…
1SG.ACC seem/think.PRS.3SG that

e. Mir dünkt/schwant, dass…
1SG.DAT seem/think.PRS.3SG/suspect.PRS.3SG that

Two-place predicates also show several different patterns:

(65) NOM_{EXP} – ACC: Ich mag dich.
1SG.NOM like.PRS1SG 2SG.ACC
'I like you.'

(66) NOM_{EXP} – DAT: Ich traue dir.
1SG.NOM trust.PRS.1SG 2SG.DAT
'I trust you.'

(67) NOM_{EXP} – GEN: Ich gedenke seiner.
1SG.NOM commemorate.1SG 3SG.GEN
'I commemorate him.'

(68) NOM$_{\mathbf{EXP}}$ – PP: Ich staune über seine Fragen.
1SG.NOM be.astonished over his questions

(69) NOM – ACC$_{\mathbf{EXP}}$: Er beeindruckt ihn.
3SG.NOM impress.3SG 3SG.ACC
'He impresses him.'

(70) NOM – DAT$_{\mathbf{EXP}}$: Sie gefällt mir.
3SG.NOM appeal.PRS.3SG 1.SG.DAT
'She appeals to him'

(71) DAT$_{\mathbf{EXP}}$ – GEN: Mir ermangelt (es) der Ruhe.
1SG.DAT lack.PRS.3SG EXPL the calmness.GEN
'I lack calmness'

(72) DAT$_{\mathbf{EXP}}$ – PP: Mir graut (es) vor dir.
1SG.DAT be.terrified.PRS.3SG EXPL of you

Diachronically, the variation was even greater since 'subjectless constructions' like (73) existed as two-place predicates with accusative (or dative) experiencer and genitive/PP/infinitive/CP like e.g. in (73) as well (see von Seefranz-Montag 1983, 1995).

(73) ACC – GEN/PP/INF/CP: mich wundert eines dinges (Middle High German)
1SG.ACC puzzle.3SG a.GEN thing
(von Seefranz-Montag 1983: 195, (147f), glosses are mine)

Independently of whether one follows the line of reasoning in diachronic work that German shows the same development towards the elimination of 'subjectless' constructions, and a trend towards nominative experiencer constructions like English[11] (see van Gelderen 2014, 2018 on English) or not, it is obvious that the different case patterns are not equally distributed in Modern High German, not to speak of actual spontaneous (oral) speech production[12]. While DAT$_{EXP}$ – GEN, and ACC$_{EXP}$ – CP constructions like (64b) are clearly archaic and no longer productive, certain archaic DAT$_{EXP}$ – PP/CP constructions, like most famously *mir graut vor*... 'I'm terrified of…', are still used but only in quite restricted ways (see Doval 2011), and the patterns are not productive any longer (see Wegener 1998). This leaves us finally with the three

[11] See von Seefranz-Montag (1983, 1995) for such claims. However, it seems to be more reasonable to assume a middle position for German with respect to these processes on a continuum ranging from Icelandic on the one hand side to English on the other, as Doval (2011) argues, based on Wegener (1999, 2001).

[12] This intuition can clearly be verified by simple internet searches via Google News (or Books): while NOM-ACC$_{EXP}$ patterns like e.g. *ich mag*... 'I like…' get 185.000 hits on Google News (531.000 hits on Google Books), DAT$_{EXP}$ – GEN constructions like *mich ermangelt*… get 0 hits on Google News, and 7 hits on Google Books, none more recent than the year 1882, while a DAT$_{EXP}$ – PP verb like *mir graut vor*... get 2.600 hits, and ACC$_{EXP}$ *ihn dünkt*… 3 hits on Google News (variation in person or number do not change the picture at all).

cross-linguistically observed patterns of psych verbs for German[13], which are at the centre of this study as classified as (74) following the standard way since Belletti & Rizzi (1988):

(74) a. **Class I SubjExp verbs**
Der *Mann*$_{EXP}$ mag das Buch. NOM$_{EXP}$ – AKK
the.NOM man likes the.ACC book

b. **Class II ObjExp verbs**
Das Buch/Anna beeindruckt *den* *Mann*$_{EXP}$. NOM – AKK$_{EXP}$
The book/Anna impresses the.ACC man

c. **Class III ObjExp verbs**
Das Buch/Anna gefällt *dem* *Mann*$_{EXP}$. NOM – DAT$_{EXP}$
The book/Anna appeals(.to) the.DAT man

Furthermore, however, even reduced to these three classes of ObjExp verbs, more variation with respect to argument realization of the same Root/lexical item can be observed as (75) (based on Engelberg's (t.a.) examples) illustrates:

(75) a. Annas Bemerkung ärgerte Peter.
Anna's remark.NOM annoy.3SG.PST Peter
'Anna's remark annoyed Peter.'

b. Peter ärgerte sich über Annas Bemerkung.
Peter annoy/anger.3SG.PST REFL over Anna's remark
'Peter was/became angry about Anna's remark.'

c. Dass Anna eine Bemerkung gemacht hatte, ärgerte Peter.
that Anna a remark made had annoy.3SG.PST Peter
'That Anna had made a remark annoyed Peter.'

d. Peter ärgerte sich (dar-über), dass Anna eine Bemerkung gemacht hatte.
Peter annoy/anger.3SG.PST REFL (that-over) that Anna a remark made had

e. Anna ärgerte Peter.
Anna annoy3SG.PST Peter

f. Peter ärgerte sich.
Peter annoy/anger.3SG.PST REFL

[13] These patterns are all productive, while this is uncontroversial for Class II verbs, Wegener (1985, 1999) shows that this is also true for dative experiencer, especially with respect to certain colloquial registers, like e.g. 'teenage slang', adolescence language, among others.

3.2. Alternating √PSYCH verbs

While the general variation of case and argument structure patterns has been discussed at length in the literature on German psych verbs, an interesting pattern seems not have been discussed systematically so far – at least to my knowledge –, and its insights have not been connected to the ongoing debates on psych verbs summarized in chapter 2.

Some German Roots alternate with respect to their argument structure patterns in an interesting way as (76) demonstrates. I will refer to these Roots as √PSYCH since they denote concepts which can even synchronically be attributed to, or at least associated with concepts form the psychological and emotional domain like √angst 'fear', √ärger 'anger', etc.

(76) Alternating √Psych verbs in German[14]

Subject-experiencer	**Class II object-experiencer**	
sich √ärger-n REFL anger/annoy 'to be/get annoyed'	√ärger-n anger/annoy	ver-√ärger-n PREFIX-anger/annoy
sich √wunder-n REFL puzzle 'be puzzled/surprised'	√wunder-n puzzle 'puzzle/surprise'	ver-√wunder-n PREFIX-puzzle 'get puzzled'
sich √gräm-en REFL grieve/sorrow	√gräm-en worry/trouble 'bother'	ver-√gräm-en PREFIX-worry/trouble 'aggrieve'
sich √ekel-n REFL disgust 'be disgusted'	√ekel-n disgust	ver-√ekel-n PREFIX-disgust
sich √ängst-igen REFL frighten 'be afraid/alarmed'	√ängst-igen frighten/alarm	ver-√ängst-igen PREFIX-frighten/alarm 'get frightened'
sich √schäm-en REFL shame 'be ashamed'	√schäm-en [ARCHAIC][15]	be-√schäm-en PREFIX-shame 'make feel ashamed'
REFL √PSYCH	**√PSYCH**	**PREFIX-√PSYCH**

[14] Please note: glossing and translating psych verbs is particularly difficult, since subtle, and less subtle differences in otherwise similar verbs exist, and one-to-one matching is tricky, which can also be seen as the same lexical items often vary with respect to their glosses in the literature. Consequently, (English) translations are often not a reliable guide to compare verbs.

[15] No longer used in Modern German, however attested at least until the end of the 19th, and the beginning of the 20th century (see Behaghel 1924, II: 134, quoted in Haider 1985: 248; and with a dative experiencer-object in Theodor Fontane's *Irrungen* 1888, quoted in von Seefranz-Montag 1983:188).

(77) a. Der Stau wunderte ihn.
the traffic.jam puzzled him

b. Der Stau verwunderte ihn.
the traffic.jam PREFIX.puzzled him

c. Er wunderte sich über den Stau.
he puzzled REFL over the traffic.jam

d. Dass es einen Stau gab, wunderte ihn.
that it a traffic.jam gave puzzled him
'That there was a traffic jam surprised him.'

(78) a. Peter wunderte Anna (*absichtlich, um sie los zu werden).
Peter puzzled Anna deliberately in.order her to.get.rid.of

b. Peter verwunderte Anna (absichtlich, um sie los zu werden).
Peter PREFIX-puzzled Anna deliberately in.order her to.get.rid.of

(79) a. Der Schüler/Die kluge Frage wunderte den Lehrer.
the pupil / the clever question puzzled the teacher

b. *Der Lehrer wurde (durch die Schüler/ die kluge Frage) gewundert.
the teacher became through the pupil/ the clever question puzzled

c. *Der Lehrer war gewundert.
the teacher was puzzled

(80) a. Der Schüler/ Die kluge Frage verwunderte den Lehrer.
the pupil / the clever question PREFIX.puzzled the teacher

b. Der Lehrer wurde (durch die Schüler/ die kluge Frage) verwundert.
the teacher became through the pupil/ the clever question PREFIX.puzzled

c. Der Lehrer war verwundert.
the teacher was PREFIX.puzzled

Both ObjExp verbs forms, which are formed with the same Root mark their object with accusative case, i.e. they are both Class II ObjExp verbs. However, a first superficial look at their empirical behaviour reveals significant differences: as (78) shows only the PREFIX-√PSYCH verbs allow for agentive readings as demonstrated by the combination with agentive adverbs (*absichtlich* 'deliberately'), and/or a purpose clause. Moreover, only they can form verbal and adjectival passives (see 80), while the one without a prefix neither have verbal nor adjectival passives (see 79). These differences will be subject to thorough testing in the next chapter. However, before that a brief summary of the accounts of German psych verbs is in order here, especially with respect to the question of whether they can account for the diverse empirical behaviour of ObjExp verbs as discussed in chapter 2, and briefly sketched out for the German verbs in the previous two sections of this chapter.

3.3. Accounts for German psych verbs

Given the diverse empirical picture sketched out, many of the studies on German psych verbs are focused on providing explanations for the different case patterns summarized in 3.1 (see Wegener 1998; Primus 1999a, 1999b, 2004, 2006; Klein & Kutscher 2005), their historical development (see Wegener 1999, 2001), and current use (see Engelberg 2014, t.a.). Besides, there is more recent corpus (see Möller 2015), and experimental work (some of it from a typological perspective) (see Ellsiepen & Bader 2018; Verhoeven 2010, 2014, 2015; Temme & Verhoeven 2016, 2017; etc.) on experiencers, and effects linked to them. This extensive and important work on these issues cannot be done justice to here, since the focus of this study is different, and the research questions have a different scope. Therefore, the summary of the literature here will be selectively directed towards the questions which emerged from the discussion of the general debate on psych verbs in the theoretical literature as summarized chapter 2, especially how to account for the diverse behaviour of these verbs with respect to their event structure properties, agentivity, and syntactic phenomena like passivization, and which consequences this has for the classification and analysis of these verbs.

3.3.1. Historic development and case patterns

The description and explanation of the historic development of psych verb case patterns and constructions is at the centre of Wegener's (1998, 1999, 2001) work. She shows that almost all psych verbs were derived from physical verbs following a standard pattern: verbs which actually denoted physical, objectively perceivable impact on the body were converted into verbs denoting psychological impact which can only be subjectively perceived[16] (2001: 174). She further argues on the basis of French and English data that this process is a cross-linguistically valid pattern for the formation of novel psych verbs (see also Alexiadou 2017; Alexiadou & Anagnostopoulou 2018 for work on that process in Greek). The grammaticalization process always occurs from verbs with concrete, objective, physical meaning to verbs with abstract, subjective, psychological meaning, according Wegener.

With respect to linking and case patterns of psych verbs in Modern German, Wegener (1998, 1999, 2001) represents a semantic decomposition approach following Primus' (1999a) implementation of a Dowty (1991)-style Proto-Role approach: SubjExp verbs have the simpler

[16] Besides these verbs, psychological verb meaning can also be derived from physical verbs describing the motion of a living being, or how a machine works, as well those describing actions like taking an object, or those describing the physical appearance (see Wegener 1999: 172-179 for a detailed discussion).

decomposition structure in (81), while ObjExp verbs are assumed to have the complex decomposition as in (82). This means that Wegener assumes that all ObjExp have the inchoative reading, i.e. they cause a change of state in the experiencer because this is the crucial difference, which ensures the correct linking pattern. Since there is a change of state in the experiencer, the experiencer has one Proto-Patient property more, and, consequently, gets the role of direct object.

(81) EXPER (x,y)

(82) CAUSE (x, EXPER (y,x))

This means for Wegener ObjExp verbs constitute a homogeneous group of verbs, which all contain a change of state reading. She does not systematically discuss the diverse behaviour of ObjExp verbs. For her ObjExp verbs are also homogeneous with respect to their behaviour, she claims, e.g. that ObjExp do not passivize in general. The synchronic existence of a number of different constructions, like alternating *sich* SubjExp and ObjExp verbs (e.g. *Das wundert mich* 'That puzzles/surprises me' – *Ich wundere mich (darüber)* 'I'm puzzled (about that)') is attributed to pragmatic needs of theme-rheme organization and sentence linking in her account. Such constructions are diatheses for her, substitutes for the missing passive form.

Klein & Kutscher (2005) are also primarily concerned with the variation in case patterns, which they account for in a Dowty (1991)-Primus (1999a) Proto-Role Optimality Theory framework. They criticize Wegener's approach for the treatment of ObjExp verbs as a homogeneous class with respect to their empirical behaviour, and argue that she confuses etymology and case selection. Klein & Kutscher argue that for many verbs the psych reading exists synchronically beside a non-psych reading. Therefore, as a result of the 'Principle of Lexical Economy' (see 83-84), these non-psych readings completely determine case selection for the psych readings, since they have to follow the strongest restrictions on case selections imposed by their physical readings. For those verbs which are no longer synchronically polysemous, the 'Principle of Lexical Economy' motivates case selection "from an etymological perspective" (Klein & Kutscher 2005: 26), i.e. it was established as long as the non-psych reading existed, and has been preserved in the lexical entry of the psych verbs, after the physical reading got lost.

(83) *Principle of Lexical Economy*: Lexical entries are as simple as possible.

(84) *Principle of Lexical Economy applied to case frames*: Each verbal lexeme has only one case frame. This case frame holds for each possible reading of the lexeme and must therefore be compatible to all its readings.
(Klein & Kutscher 2005: 20, (44), (45))

Selection of dative is accounted for differently, but is argued to be independent of the psych-reading as well: dative is the result of valency increase in their model.

The empirical observation by Wegener (1985) that for many psych verbs unstable case patterns have existed since the days of Middle High German showing a high degree of variation between accusative and dative in both directions seems to be a problematic issue for a rigid model like the one proposed here. Besides, the treatment of psych verbs which are built without an underlying physical reading remains also unclear (e.g. if taken from other languages like English *Das fuckt mich ab*[17] 'that really annoys me' (colloq.); see Wegener 1999 for a detailed discussion of such verbs built in certain specific registers). Besides, they do not elaborate any further on the different alternating constructions available with the same lexical item, and how they are connected to each other, and could be accounted for.

But more important for the discussion here is another aspect of their study: they develop their model as the consequence of their discussion of the empirical behaviour of German psych verbs, which leads them to conclude that none of the syntactic or semantic approaches presented in chapter 2 can correctly explain the diverse behaviour of German psych verbs. While certainly not all of their empirical claims seem to be justified, a few observations are important to highlight, since they will be crucial for the discussion and analysis of the German data in the following chapters. Most importantly, their findings converge to the central observation that German ObjExp verbs are not a homogeneous group, neither with respect to their event structure properties nor with respect to passivization. Whereas they state that most psych verbs in German do not passivize, they report on the basis of a study with 50 native speakers of German[18] that some Class II ObjExp do have verbal passives, even with 'non-controlling', i.e. nonagentive stimuli (see 85).

[17] See e.g. "*Deutsche Blogger Kollegen, ihr fuckt mich ab!*" (<https://www.christinakey.com/deutsche-blogger-kollegen-ihr-fuckt-mich-ab/>, retrieved March 5, 2018).

[18] In ft. 5 Klein & Kutscher (2005: 6) add that all participants of their study which accepted the passives were from the northern part of Germany, while testing participants from the south resulted in different judgements. My own tests of the same data with a number of speakers from the south of Germany (the author included) indicated to the contrary that there is no such difference with respect to the acceptability of these sentences, which makes Klein & Kutscher's point even stronger.

(85) Hans wurde von der Nachricht beeindruckt/ beunruhigt/
Hans AUX.PASS.PAST.3SG by the news impress.PPERF/ worry.PPERF
getröstet/ genervt.
console.PPERF/ annoy.PPERF
'Hans was impressed/worried/consoled/annoyed by the news.'
(Klein & Kutscher 2005: 6, (16))

With respect to event structure properties, they argue on the basis of the combination with durative and time frame adverbials that some Class II ObjExp verbs are achievements, while others are accomplishments, whereas a further subclass do not exhibit a bi-eventive aspectual structure, they classify them therefore as activities (2005: 7-8).

To summarize, the point Klein & Kutscher (2005) stress is that the empirical behaviour of German psych verbs is too diverse to be accounted for under any of the syntactic and semantic approaches, in that their claims are similar to Grafmiller's (2013). Therefore, their strong claims raise the same fundamental question for the analysis of German ObjExp verbs as Grafmiller's do for English: are there grammatical patterns and generalizations observable, which can motivate the assumptions made in the syntactic or semantic theoretical accounts, i.e. that structural grammatical differences exist which condition the diverse behaviour of psych verbs.

3.3.2. Proto-Role approaches

Primus (2004, see also 1999a, 1999b) combines Dowty's (1991) Proto-Role Approach (see 2.1.2.4) in a slightly modified form with an Optimality Theory implementation to derive the case patterns of German psych verbs (and others) in general, but does not discuss case assignment for individual verbs. She makes a distinction between 'controller-stimulus' and 'stimulus (no controller)', which could be interpreted to be parallel to agentive versus nonagentive readings, however without elaborating on that any further[19]. For ObjExp verbs with 'stimulus (no controller)', she points out that a free variation in the sequence of their objects, as well as the restriction that they neither form passives nor imperatives results from the fact that they do not have a 'harmonic role-case-alignment/configuration'[20]. SubjExp verbs, on the other hand, do have a 'harmonic alignment/configuration' in this sense, and can, therefore, form verbal passives and imperatives.

[19] In fact, the distinction she assumes here, is rather unclear since her example of a 'controller-stimulus' is not only an agentive reading but the sentence *Peter will Maria damit ängstigen* 'Peter wants to frighten Maria (with that/by doing so') (Primus 2004: 394, (22a), translation is mine).

[20] In the German original: *"harmonische[ ] Rollen-Kasus-Ausrichtung"* (Primus 2004: 397).

Primus (2006) maintains the distinction between noncausative SubjExp verbs and causative ObjExp verbs, but also explicitly raises the issue that nonagentive readings of ObjExp verbs with a stimulus that is a non-volitional causer are the problematic case (as already diagnosed by Grimshaw 1990: 158) because the semantic relations are unclear, which will turn out to be important for the analysis in chapter 5: "The Stimulus is causally superordinate due to the fact that it causes the sentience of the Experiencer which is causally superordinate due to its sentience" (Primus 2006: 78). However, she only mentions this without elaborating further on how to deal with that. Yet she notes that this "construction strongly favours the reading in which the stimulus is the Target of sentience and subordinate to the Experiencer" (Primus 2006: 78).
No exhaustive discussion of the Proto-Role approach can be given here. As Primus' (2006) comments show the diverse behaviour of ObjExp verbs, especially the non-volitional stative Class II ObjExp verbs, poses a big challenge for these kinds of approaches as well (see Blume 2000 for a critical and detailed discussion of the Proto-Role literature, and an approach to deal with that on the basis of degrees of 'potency' of Proto-Agent properties). In general, as the literature review has shown Proto-Role approaches have to abstract from empirical differences since certain assumptions, like the entailed change of state with ObjExp verbs are crucial for the theoretical model to deliver the correct linking patterns. This seems to be problematic since a number of other empirical phenomena cannot be captured this way. Moreover, even if crucial differences are acknowledged, it remains unclear how they can be integrated into the model.

3.3.3. 'Causal bi-directionality'

Based on the empirical observations by Klein & Kutscher (2005), Kutscher (2009) reinforces the claim that the diverse behaviour of German ObjExp verbs cannot be accounted for under any of the proposed syntactic and semantic approaches discussed in the literature (see chapter 2). Psych verbs constitute a completely distinct group of verbs, whose empirical properties cannot be captured using the concepts and categories of non-psych verbs, since none of the approaches can account for the diverse behaviour, criticizes Kutscher. Like Härtl (1999, 2001a, 2001b, 2008), she assumes that both SubjExp as well as ObjExp psych verbs are always 'implicitly causative'. Building on that, Kutscher (2009) develops her model of 'causal bi-directionality', which she identifies as the central property of psych verbs. This model cannot be discussed here in detail, since it transcends the established debate on psych verbs, and the questions which are at the centre of this study, but the discussion in chapter 4 and 5 will come back to some of the conceptual arguments of it (see Kutscher 2009: 43-69 for the details). While

it is impossible to evaluate the conceptual, philosophical and cognitive claims made by Kutscher here, the crucial question from a linguistic point of view is if these factors indeed influence the mechanisms of the grammar of psych verbs in the way Kutscher suggests, i.e. whether they are indeed relevant for grammatical processes in the proposed way. Kutscher's (2009) central linguistic argument, on which she builds the reasoning for her model of 'bi-directionality', is that SubjExp and ObjExp verbs are in semantic relationships to one another, i.e. she claims that they are mutually interchangeable and entail one another, e.g. for German *beeindrucken* 'impress' and *bewundern* 'admire': 'if someone is impressed by something, he admires what impresses him' (Kutscher 2009: 55, my translation). However, examples like (86), which are clearly not contradictory, show that this postulated automatic relation and absolute semantic equation does not hold, neither for German nor for English[21], a point already stressed by Fanselow (1992).

(86) Die Ergebnisse der AfD bei den Landtagswahlen beeindruckten mich (wie viele andere), aber ich bewundere die AfD (deshalb doch) nicht.
the results the AfD at the state.assembly.elections impressed me (like many others) but I admire the AfD (therefore MODPRTL) not
'The AfD's results in the state elections impressed me (like many others), however, I do not admire the AfD (for that).'

Moreover, Levin & Grafmiller (2013), building on Zaenen's (1993) work, show in a corpus study for English that even the very few, and therefore not representative pairs of verbs which are supposed to be in such a 'semantic relationship' like *fear* and *frighten*, are in fact not because the meanings of the two (classes of) verbs are different. The non-experiencer argument, the so-called stimulus, of *fear* and *frighten* verbs is semantically not the same, they conclude: only the stimulus of *frighten* verbs qualifies as a causer (and "no less so than the causer of other regular causative verbs"), but, crucially, the stimulus argument of *fear*-type verbs does not. The non-experiencer arguments of these verbs are "entities at which a particular emotion can be directed" (Levin & Grafmiller 2013: 30). Because of these distinct meanings, they give a negative answer to their central question (and title) "Do you always fear what frightens you?", since "you can indeed be frightened by things you do not fear" (Levin & Grafmiller 2013: 31). This confirms the traditionally assumed difference between SubjExp and ObjExp verbs, and shows, just like (86), that the postulated bi-directionality does not hold.

[21] Jeannique Darby as well as Margaret Grant (p.c.) confirmed this assessment of the data for English as well.

Not only constitute examples like that counterarguments against such a model, but, moreover, there are arguments against the central conceptual assumption of 'causal bi-directionality' as well: psycholinguistic research (see Hartshorne et al. 2015, 2016) has brought forward a number of arguments that there is a fundamental difference between SubjExp verbs like *love, hate,* etc. and ObjExp verbs, which is due the causative structure involved in the latter. Especially Brennan & Pylkkänen (2010) add further evidence with respect to the increased lexical complexity of ObjExp verbs in comparison to SubjExp verbs on the basis of their findings that the former are more costly to process, and show longer reading times if the two groups of verbs are compared in the same kind of experiments. This confirms the well-established findings from a large body of different psych- and neurolinguistic work (see Thompson & Lee 2009; Gennari & MacDonald 2009; Altmann et al. 2008; Cupples 2002; Piñango 2000; and further references discussed in Brennan & Pylkkänen 2010) that ObjExp verbs exhibit behavioural effects such as greater processing difficulties with respect to different metrics, which can be explained by entailments about the causation of the mental state which ObjExp verbs carry but SubjExp verbs lack. This experimental evidence therefore strongly supports the view held in much of the theoretical literature (as summarized in chapter 2) that there are representational differences with respect to causal structure and semantic complexity between SubjExp and ObjExp verbs in contrast to assumptions about 'causal bi-directionality.' This casts doubt on the question of whether this kind of model is needed and appropriate to account for the empirical facts, and refers us back to the question whether there are other grammatical principles, which can account for the observed diverse empirical behaviour of ObjExp verbs.

3.3.4. *Psychologische Wirkungsverben*

For Rapp (1997, 2001a, 2001b), and accounts following her approach (see Handwerker 2004; Möller 2007, 2015; etc.), ObjExp verbs form one of two subgroups of a special class of verbs, which Rapp labels *Wirkungsverben* 'impact/effect verbs' because these are 'causative verbs, which describe the effect of a primary process, which is left implicit'. These verbs exist in both non-psych (like e.g. *verschmutzen* 'pollute'*, schonen* 'spare') as well as psych versions. *Psychologische Wirkungsverben* 'psych impact verbs' (henceforth: psych *W*-verbs) as well as the non-psych group further split into two subclasses each: crucially, what characterizes them is that they are always causative, however, they differ with respect to whether they express a change of state or not. Accordingly, they are analysed in Rapp's semantic approach with the lexical decompositions in (87) if they express a change of state, like e.g. *enttäuschen*

'disappoint', and (88) if they do not express a change of state, like e.g. *faszinieren* (see Rapp 1997: 68-79).

(87) *Resultative Wirkungsverben* ('resultative impact verbs')
CAUSE (x, BECOME/DEV (PSYCH(y)))

(88) *Zuständliche Wirkungsverben* ('stative impact verbs')
CAUSE (x, PSYCH(y,x))

In later work (see Rapp 2001a), the two analyses are unified under one general lexical semantic structure for all psych *W*-verbs as represented in (89) in combination with a general redundancy rule in (90). However, Rapp (2001a) explicitly points out that in the structure (89) as well as in the separate lexical semantic structure in (87-88), not only the complex change-of-state predicate BECOME, but also a BE or POSS state is possible, i.e. the same distinction applies.

(89) λy λx λs [P (… x …), POSS ((x,y) s)]

(90) redundancy rule: P_1 ((…) v_1), P_2 ((…) v_2) $\supset$ CAUSE ((v_1,v_2) v_2)
(Rapp 2001a: 253, (28), (30)).

What distinguishes psych *W*-verbs from other verbs is their 'indirect causality': Rapp argues that the first part of the causative lexical semantic structure of these verbs is always unspecified, and, thus, can be a state, activity, or event, while the second conjunct in their lexical semantic structure is always a state.
With respect to linking she points out that the stimulus argument is always realized as subject. Contrary to agent or experiencer, the stimulus is not part of a thematic hierarchy, and therefore behaves different from other subject arguments: stimulus subjects can occur together with *mit*- or *durch*-PPs specifying or naming the primary process, as long as the primary process is not expressed itself, see (91).

(91) a. Sie erheitert das Kind durch die/ mit der Sonate.
she exhilarates the child through the/ with the sonata

b. *Die Sonate erheitert mich durch das/ mit dem Musizieren.
the sonata exhilarates me through the/ with the playing.music

(Rapp 1997: 79, (48a), (50a); glosses are mine)

It is important to note that the *mit*-PPs are not instruments in this case, as Rapp points out. Furthermore, it is remarkable that she observes that with psych *W*-verbs *durch*, which is the typical preposition introducing causers in German (see Alexiadou et al. 2015: 32), is preferred to *mit*.

Besides, Rapp claims that psych *W*-verbs show three peculiar properties which set them apart from other verbs: firstly, they are always optionally intentional. Secondly, their imperative can only be interpreted indirectly in the sense of 'do something by which you x' (where x is a psych *W*-verbs). And, thirdly, even though psych *W*-verbs are causative, Rapp claims that they are not telic, and therefore compatible with time span adverbials because they name a caused effect, which is simultaneous to the primary causing event.

All in all, Rapp claims that psych *W*-verbs are "syntactically completely unremarkable" (Rapp 2001a: 243, my translation), and that only their semantic properties, i.e. their special lexical semantic structure, crucially causation, set them apart, and justify that they form a separate group (see Rapp 2001b for a detailed argumentation with respect to causation).

While Rapp makes a number of invaluable observations, the claim that ObjExp verbs are 'syntactically unremarkable' can obviously not be correct, as the brief summary of the data in 3.1-3.2 has shown. Consequently, Rapp does not account for these differences, e.g. with respect to passivization, while other empirical claims, such as e.g. that ObjExp are ***always*** potentially intentional seem to be problematic as well, and points towards another conceptual problem of the analysis: if the lexical semantic structure of ***all*** psych *W*-verbs has the form in (89), since this is what essentially defines these verbs, one would indeed except that ***all*** ObjExp verbs, at least potentially, have the same diverse properties. Yet this is obviously not the case. Consequently, it is not clear how the distinction described in Rapp (1997), which is an empirical fact that can be observed, is derived, i.e. the fact that some ObjExp verbs seem to contain a change of state, while others do not. Besides, the ways in which at least some ObjExp verbs are 'syntactically remarkable' as the discussion in chapter 4 will show in depth, requires an explanation, Rapp's approach cannot provide.

3.3.5. Different kinds of stative verbs

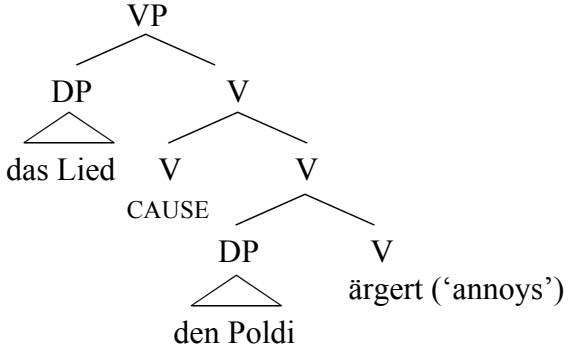
Rothmayr (2008, 2009) argues that the crucial distinction between the different groups of psych verbs in German boils down to a difference in the kind of stativity they involve: SubjExp verbs as well as Class III ObjExp verbs are "non-ambiguous statives" in her terminology. Contrary to that, Class II ObjExp verbs (along with verbs of instrumental alternation, dispositional verbs,

threaten-verbs, and perception verbs) belong to the class of verbs which display a crucial stative–eventive ambiguity, i.e. her claim is that all Class II ObjExp verbs allow for a stative and an eventive reading. Since these verbs semantically express a counterfactual relation between two states, their lexical semantic structures always contain a Dowtian CAUSE-operator. Therefore, these verbs are 'causative states'. In her semantic decomposition approach based on Dowty's (1979) aspectual calculus, this sets this group of verbs apart from other stative verbs: the presence of CAUSE in the lexical semantic representation potentially allows for the addition of a DO- and/or a BECOME-operator, which is the reason for the ambiguity. Since the CAUSE-operator is the only way to combine two sub-eventualities within a verb, this explains the difference between the two groups of stative verbs, according to Rothmayr (2008, 2009).

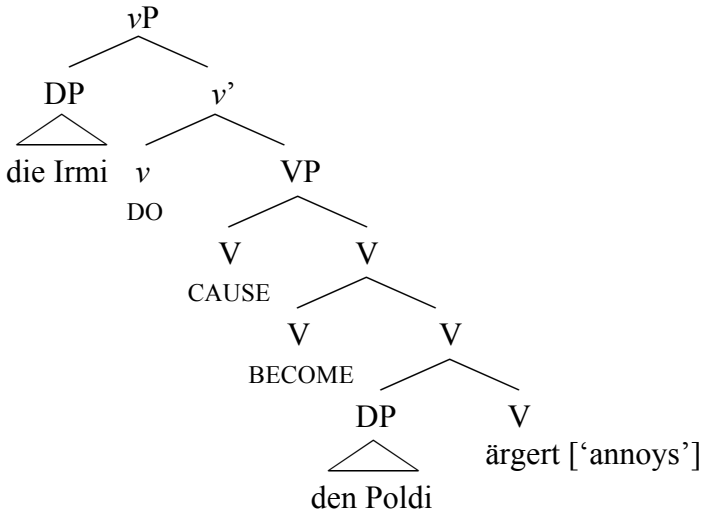
However, it is important to note that the stative causatives do not contain any further activity or transition operator in additional to CAUSE in their lexical semantic structure under their stative reading. The CAUSE-operator, which is syntactically hosted within a V-head, does not give rise to an eventive interpretation. These verbs are Kimian states (see Maienborn 2003, 2005) involving a stative causer (see 93). The stative causative only projects a VP layer which expresses a resultant state (see Rothmayr 2009: 47). Consequently, for Rothmayr, all Class II ObjExp verbs are causative, since they all contain a CAUSE operator. Class II ObjExp have the lexical semantic structure in (92). Verbs which "allow for a gradual onset of the psychical effect […] may contain a BECOME-operator" (Rothmayr 2009:65) in addition, while the agentive reading requires the addition of a DO-operator expressing active and intentional acting. The experiencer object is always included in the resultant state of the caused experience. This results in the syntactic structures in (93)-(95).

(92) λy λx λs CAUSE(x, ANNOYED(y))(s)
(Rothmayr 2009: 65, (151b))

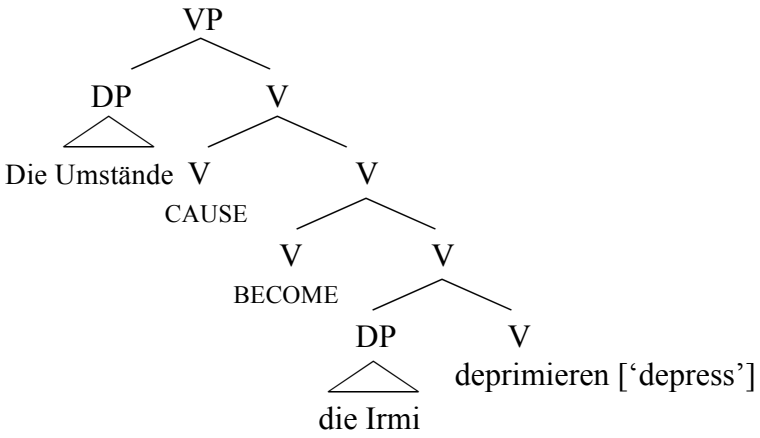
(93) The stative reading (Rothmayr 2009: 66, (155b))



(94) Agentive eventive reading (Rothmayr 2009: 66, (154b), slightly simplified)



(95) Eventive (nonagentive) reading (Rothmayr 2009: 67, (157b))



While the general intuition behind the argumentation seems plausible – at least for some of the verbs –, and Rothmayr's discussion of stativity is interesting and insightful from a semantic and conceptual point of view (see 5.2.3.3), the empirical picture she draws seems to be too coarse: in her model, the whole group of Class II ObjExp verbs should always show this ambiguity for ***all*** verbs in the same way, since they – as a semantic group – ***all*** have the lexical decomposition structure containing CAUSE (see Rothmayr 2009: 203). Given the empirical observations in 3.2, as well as Rapp's (1997), and Klein & Kutscher's (2005) observations, this claim seems not to be empirically correct. Furthermore, some details of the analysis remain unclear, especially the precise status of the 'embedded caused resultant state', which is sometimes notated for German *ärgern* with the English translation ANNOYED (see 92), and sometimes with the German *ärgert* (annoy.PRES3SG) 'annoys' (see 93/94). What might look like a minor difference, in fact, sheds light on a crucial point, as the empirical analysis in chapter 4 will show: verbs like *ärgern* seem not included a result(ant) state in the sense suggested here, which becomes obvious from

the fact that these verbs cannot be used in the adjectival (passive) form **ist geärgert* 'is annoyed', as opposed to other ObjExp verbs (see 4.4.2 for more details). The important point here is that exactly the status of this result(ant) state is a central question (see also Möller 2015: 78-79 for similar criticism), since it seems not to exist in the way described by Rothmayr (2009), at least not for all ObjExp verb. Besides, the syntactic side of the analysis is rather underdeveloped, and it remains unclear how the analysis could account for observed empirical syntactic patterns in 3.2, which Rothmayr does not discuss.

Crucial is, however, to highlight again that Rothmayr as well as Rapp diagnoses that Class II ObjExp verbs represent a kind of causation which does not involve an eventive BECOME (operator) relation, but represents a stative causative relation.

3.4. Summary: classifications and analyses of German ObjExp verbs

As the discussion has shown semantic approaches (many in the tradition of Dowty's (1991) Proto-Role approach) are dominant in the analyses of German psych verbs (the fewer syntactic treatments of psych verbs, which are mostly part of a general syntactic description like Fanselow (1992, 2000a, 2003b) and Haider (1993, 2000a, 2000b), will be summarized in the context of the syntactic analysis). Even though this dominance of the semantic accounts is different from the cross-linguistic discussion, the overall picture is quite similar: the debate is highly fragmented, and divided by disagreement on many different issues. With respect to the most relevant question of the diverse behaviour of ObjExp verbs, and how to classify and analyse them, broadly three camps can be distinguished: firstly, those who do not explicitly acknowledge the problem of the diverse behaviour but treat ObjExp verbs as a more or less as homogeneous group (Wegener 1998 *et seq*.; Härtl 1999, 2001a, in some respect Rothmayr 2009, etc.). As pointed out, especially Proto-Role Approaches (have to) abstract from differences, which has been criticized (by Klein & Kutscher 2005, and others), and even if empirical differences are acknowledged, it remains unclear how they can be integrated into the model. The second group of approaches, represented e.g. by Klein & Kutscher (2005), and Kutscher (2009), is diametrically opposed to that: they argue that the empirical behaviour of German psych verbs is too diverse to be accounted for under any of the syntactic and semantic approaches (in this respect similar to Grafmiller 2013), and therefore they propose a completely different way to account for them. And, thirdly, there are those approaches which acknowledge that ObjExp verbs might not be a homogeneous group, but differ on how to best account for them: for Rothmayr (2009) Class II ObjExp verbs are causative, but there is a stative–eventive

ambiguity[22]. Similarly, Rapp (1997, 2001a, 2001b) argues that causativity is the central characteristic of these verbs, distinguishing them into a special class of *Psychologische Wirkungsverben* 'psychological impact-verbs', which always express a causative relation but might or might not express a change of state. Contrary to that, other approaches, like Härtl (1999, 2001a, 2008, 2010), claim that (almost) all Class II ObjExp verbs are activities[23], and disputes that they are causative[24]. The second part of this claim is also a major point of Kutscher's (2009) model of 'causal bi-directionality'. Others like Eisenberg (1999, 2013), Scheepers et al. (2000), Verhoeven (2010, 2014, 2015), Temme & Verhoeven (2016), etc. claim that the vital difference characterizing Class II ObjExp verbs is (non)agentivity, which results in two subgroups of Class II ObjExp verbs in their accounts: (i) '±agentive verbs', which can have an agentive reading with an animate stimulus argument, and (ii) '–agentive verbs', which only have a stative, non-eventive reading.

TABLE 4: Summary: classifications of ObjExp verbs in German

	Aspectual properties	**Causativity**	**Agentivity**
Wegener (1999 *et seq.*)	inchoative/change of state	causative	
Härtl (1999, 2001a, 2008)	activity (achievement)	noncausative	+agentive
Rapp (1997 *et seq.*)	+change of state –change of state	causative	
Primus (2004, 2006)	inchoative/ change of state stative	causative	
Klein & Kutscher (2005) Kutscher (2009)	activity accomplishment achievement	noncausative	
Rothmayr (2009)	stative eventive	causative causative	–agentive ±agentive
Verhoeven (2010 *et seq.*)	eventive/dynamic stative	causative[25] noncausative	±agentive –agentive

To conclude, no consensus about the classification and not even the assessment of the empirical properties of German Class II ObjExp exists, proposals range from treating them as a

[22] Yet she treats ***all*** Class II ObjExp verbs to be a homogeneous group since they should ***all*** show this ambiguity because they are all defined by their common lexical semantic structure containing CAUSE as a semantic group of verbs, therefore Rothmayr is also in some respect assigned to the first 'camp of homogeneous approaches'.

[23] He restricts this claim in Härtl (2008) to verbs with an animate subject only.

[24] Collapsing the distinction between subject and object experiencer verbs, claiming that both groups of verbs show 'implicit causality' instead.

[25] "[T]he eventive (dynamic) verbs can be interpreted as causative in a broad sense, i.e., as bringing about a change" (Verhoeven 2010: 217).

homogeneous group with certain (contested) characteristics to the claim that they are too diverse to be classified like that at all. This diverse picture makes it necessary to have a closer look at the tests used, and how they are used to derive the claims made about these verbs. There are a number of problematic issues to be raised, which might shed some light on why such a number of totally different claims are made about these verbs. Firstly, the very nature of the classifications is hardly ever discussed and argued for explicitly, but central properties of these verbs and their classification are often just stated or stipulated without proper debate. Secondly, even those accounts which discuss the classifications explicitly, do so only referring to either a very limited number of tests only, or several tests which are, however, only applied to a very limited number of verbs, often in an incoherent way, which leads to problematic generalizations and conclusions, which seem not to stand a more thorough testing on a broader basis. Consequently, more tests will be used to clarify the empirical picture in chapter 4 in order to get a clearer picture.

The first question deduced from Klein & Kutscher's (2005) strong claims is whether significant grammatical generalizations are observable, which can motivate the assumptions made in the theoretical (syntactic or semantic) accounts, i.e. whether grammatical principles can be found which condition the diverse behaviour of psych verbs in the way suggested by these accounts.

Secondly, if something like a consensus emerges from the discussion of ObjExp verbs then it is that stative nonagentive but causative Class II ObjExp seem to be the problematic case independent of the grammatical model, since they pose challenges for every account which cannot be dealt with easily (see Rapp 1997; Blume 2000; Primus 2006). Therefore, an analysis of these verbs is especially needed.

And, finally, while most accounts in the literature are concerned with the lexical semantic and conceptual properties of German psych verbs in general as well as their case patterns, hardly any of the proposals accounts for the diverse empirical patterns of psych verbs observed, most of them not even discuss or recognize them. Consequently, the question of how to explain the interesting √PSYCH – PREFIX-√PSYCH verb alternation as well as other empirical patterns like passivization differences, etc. still require an explanation, which I will try to give in chapter 5. But before any analysis can be undertaken, the empirical properties of these controversial ObjExp verbs have to be clarified in a first step.

Chapter 4 : Empirical analysis of German psych verbs

As the presentation of the data patterns of German psych verbs, and the summary of the discussion of the accounts proposed in the literature has shown, there is hardly any consensus about the classification, and analysis of ObjExp verbs, thus, the situation for German fits into the general picture of the cross-linguistic debate. Consequently, the objective of this chapter is to have a closer look at the empirical behaviour of German psych verbs, especially the controversial group of ObjExp verbs, to get a clearer picture of their properties. Since agentivity features most prominently in the German literature as the central concept on which many analyses trying to account for the empirical behaviour of ObjExp verbs are based upon, this will be the first domain of closer examination in 4.1. As the analysis will show, even though there are clear differences with respect to (restrictions on) agentivity between different groups (of verbs), agentivity hardly suffices to explain the behaviour of ObjExp verbs, and the patterns observed in chapter 3, but event structure properties turn out to be crucial. Therefore, phenomena related to event structure properties of Class II ObjExp verbs will be analysed in a second step: section 4.2 examines whether German also exhibits the 'psych causative alternation' described by Alexiadou & Iordăchioaia (2014b) as an example of how aspectual properties of psych verbs condition the empirical behaviour of these verbs. In 4.3, the event structure properties of Class II ObjExp verbs will be put to closer scrutiny, with special focus on the alternating √PSYCH–PREFIX-√PSYCH verb pattern introduced in 3.2. Contrary to opposed claims in the literature clear observable patterns with respect to distinct grammatical properties of different groups of verbs can be detected, as a stative versus nonstative contrast emerges from the analysis of event structure properties. Finally, the analysis of ten grammatical phenomena from passivization to 'object drop' in 4.4 will show that aspectual differences coincide with a clear grammatical distinction ***within*** Class II ObjExp verbs.

4.1. Agentivity

One of the striking points about the classifications in the literature is that even though they mostly use the same tests, they end up with different results, which, consequently, lead to the different classifications (see TABLE 4). Rather different claims are made about the classification of the ***same*** verbs, e.g. with respect to agentivity (see e.g. Verhoeven 2014, 2015 vs. Härtl 2001a vs. Kutscher 2009). Not only is there no consensus about the assignment of the verbs to different classes, i.e. the correct characterization of these verbs, but, moreover, different claims

are made with respect to the behaviour of the same verb in the same test, which makes it necessary to have a closer look at the tests and the empirical behaviour of these verbs. Consequently, in order to assess the validity of the different claims, two strategies need to be applied: firstly, running the same tests again with a higher number of informants, since assessment of grammaticality/acceptability of these much-debated verbs has rarely been checked on a larger empirical basis (except for Verhoeven 2014, 2015), which results in different people making different claims about the same verbs. This is done in section 4.1.1, which presents the results of a questionnaire study on agentivity of ObjExp verbs. And, secondly, applying more and different tests, whose diagnostic power is based upon well-argued theoretical positions in order to account for the differences diagnosed, and to assess the validity of the tests, which will follow in sections 4.1.2[26].

4.1.1. Questionnaire study

Since the dichotomous '±agentive' versus '–agentive' distinction is the underlying assumption about ObjExp verbs in a number of recent experimental linguistic studies (see Scheepers et al. 2000; Bornkessel 2002; Bornkessel et al. 2003; Haupt et al. 2008; De Schepper & Lamers 2010; Verhoeven 2010, 2014, 2015; Temme & Verhoeven 2016, 2017), the examination of the verb classifications should start here. Under the claim put forward by these authors agentivity differences are the central defining property of Class II ObjExp verbs, which divides them into two subgroups depending on their ability to be used agentively, from which a number of other properties follow[27]. Verhoeven (2014, 2015), which are the only studies that properly discuss the empirical basis of this classification, base the assignment of the verbs to these categories on acceptability ratings by 32 speakers on a 7-point scale in one agentivity test, subordination under control predicate (see 2015: 60-61), and acceptability ratings by five speakers on a 7-point scale in two agentivity test: (i) "compatibility with control adverb", and (ii) "subordination under control verb" (see 2014: 157, Appendix C). Depending on their grand

[26] Since resources are sparse, for the main part of this thesis, the chosen methodological way is to apply more, and different tests to a greater number of verbs to check the claims made, and, thus, base the suggestions put forward here on a broader empirical basis. Ideally, of course, more tests should be applied to more verbs with *more* speakers. This, however, amounts to series of very large and complex experiments, which are beyond what can be done here, and have to be left for further research. The contribution aimed to make here is above all to get a clearer picture with respect to the properties of these verbs based on more empirical arguments, since they seem to be an understudied topic.

[27] Please note that there might be a subtle difference here to accounts like Landau's (2010), or Arad's (2002), for whom only the agentive *use*/*reading* of a verb itself is considered to be the responsible for the different properties, but not the fact that a verb *can* potentially be used in an agentive construction. However, since it is hardly ever properly discussed how the potential agentivity influences grammatical processes, it is far from clear how this is supposed to work exactly.

mean in these two tests, verbs are assigned to the groups of '±agentive' or '–agentive'. Mean values range from 1.6 to 6.8 in general, in the ±agentive group from 4.7 to 6.8, and from 1.6 to 4.6 in the –agentive group. For verbs with very high, or very low scores the case can easily be made to assign them to one of the two groups, however, the question of where to locate the dividing line between ±agentive and –agentive verbs remains more problematic. How such a threshold of agentivity is to be defined is neither clear nor discussed, not least because the significance of differences in acceptability ratings between individual verbs is not discussed either. The starkest examples of such problematic cases illustrating this dilemma are verbs like *amüsieren* 'amuse', which is assigned to the group ±agentive with a grand mean of 4.7, while *erfreuen* 'delight' with 4.6 is classified as –agentive.

Furthermore, the verbs in both groups seem to be more heterogeneous than the dichotomous classification indicates. While some of the ±agentive verbs, like *ärgern* 'annoy/anger', display properties like activities with respect to locative modifiers (96a), instrument PPs (97a), embedding under terminal predicates like *aufhören* 'stop doing something' (98a), (durative) temporal adverbial modification (98a) and imperatives (99a), while others like *enttäuschen* 'disappoint', or *beunruhigen* 'disturb/trouble' do not. Most crucially with *ärgern* 'annoy/anger' even the psychological entailment can be cancelled under the agentive use as shown in (100).

(96) a. Anna ärgerte Paul im Garten.
Anna annoyed Paul in.the garden
'Anna annoyed/was annoying Paul in the garden.'

b. ??/*Anna enttäuschte Paul im Garten.
Anna disappointed Paul in.the garden
'Anna disappointed Paul in the garden.'

(97) a. Anna ärgerte Paul mit einem Stock.
Anna annoyed Paul with a stick

b. Anna beunruhigte Paul (*mit einem Stock)/ ??einer Frage[28].
Anna calmed Paul with a stick a question

(98) a. Anna ärgerte Paul (zwei Stunden lang, dann hatte sie keine Lust mehr) und hörte auf, Paul zu ärgern.
'Anna was annoying Paul for two hours, then, she did not want to anymore, and stopped annoying him.'

b. *Anna enttäuschte Paul (zwei Stunden lang, dann hatte sie keine Lust mehr) und hörte auf, Paul zu enttäuschen.

[28] Please note that *mit einer Frage* is not a real instrument here, as will be argued in more detail in 4.2 based on Rapp's (1997) observations. A first hint at this is the fact that the rather dubious sentence improves considerably in acceptance when the definite article is replaced by a possessive determiner: *Anna berunruhigte Paul mit* ***ihrer*** *Frage* 'Anna worried him with her question (=Anna's question worried him)'.

'Anna was disappointing Paul for two hours, then, she did not want to anymore, and stopped disappointing him.'

(99) a. Anna, ärgere Paul nicht!
Anna annoy.IMPER.SG Paul not
'Anna do not annoy Paul!'

b. Anna, enttäusche Paul nicht![29]
Anna disappoint.IMPER.SG Paul not
'Anna, do not disappoint Paul!'

(100) a. Anna ärgerte Paul, aber Paul ärgerte das nicht/ sich nicht.
Anna annoyed Paul but Paul annoyed that not REFL not
'Anna was annoying Paul, but Paul got not annoyed (by that).'

b. Die anderen Kinder ärgern Paul immer, aber Paul ärgert das nicht (mehr).
'The other kids keep annoying Paul all the time, but he does not get annoyed anymore by that.'

c. #Anna enttäuschte Paul, aber Paul enttäuschte das nicht.
'Anna disappointed Paul, but Paul was not disappointed.'

These differences are confirmed in an online questionnaire acceptability study with 41 subjects (19 female, mean age: 40.58 years, median age: 29 years), modelled on previous empirical studies about agentivity. Speakers were asked for their acceptability judgments on a 7-point scale in four tests, three of which measuring agentivity, and one event structure properties, designed to investigate the intuition that verbs like *ärgern* 'annoy' seem to behave differently, and that the agentivity of their subjects is of a different quality. Twelve ObjExp verbs, chosen representatively from the literature based on the claims made about these verbs by different authors, and their divergent behaviour in other tests (see 4.1.2), were tested and compared to a control group of 'canonical transitive verbs' (taken from Verhoeven 2010). This control group of 'canonical transitive' verbs consisted of agentive activity (and/or semelfactive) predicates (101d). On the basis of judgements in the literature the twelve verbs were expected to represent three groups of ObjExp verbs (see 101): besides the two groups of ±agentive (101a), and –agentive (101b), a third group of verbs, which are usually considered to belong to the ±agentive group, but whose behaviour in different tests seems to set them apart from the other two groups as discussed (see 96-100), was also included (101c). All arguments, both subjects and objects, were animate DPs only to control for animacy effects.

(101) a. '±agentive verbs': *enttäuschen* 'disappoint', *beeindrucken* 'impress', *beunruhigen*

[29] The interpretation of the imperative is different here (as pointed out by Rapp (1997)): while (101a) can have the direct meaning paraphrased by 'stop annoying Paul', (101b) can only have the meaning to be paraphrased as 'do not do anything by which you will/would disappoint Paul'.

'worry', *begeistern* 'enthuse'

b. '–agentive verbs': *faszinieren* 'fascinate', *erstaunen* 'amaze', *anwidern*, 'disgust', *interessieren* 'interest'

c. 'problematic verbs': *ärgern* 'annoy', *erschrecken* 'frighten', *beruhigen* 'calm', *ängstigen* 'scare'

d. control group 'canonical transitive verbs': *treten* 'kick', *schlagen* 'beat', *zwicken* 'pinch', *schubsen* 'push'

4.1.1.1. Agentivity tests

Three standard agentivity tests were used: Firstly, compatibility with agent-oriented adverbs like *absichtlich* 'deliberately/on purpose' (see 102). Secondly, the possibility for verbs to be embedded under object control predicates. The ability to be embedded under an object control verb was used following Dowty's (1979) test with object predicates like *force* or *persuade* because examples like (103) cast doubt on whether being embedded under a subject control predicate is a reliable test for agentivity of the embedded verb, since clearly nonagentive verbs are possible in these constructions as well as (103) shows. Subject-control predicates seem to be able to coerce them somehow into an agentive reading. Contrary to that, (104a) shows object control predicates only allow agentive predicates to be embedded.

(102) Paul hat Anna absichtlich enttäuscht.
Paul has Anna deliberately disappointed

(103) Paul versuchte, zu sterben/ die Lösung zu verstehen / das zu sehen.
Paul tried to die / the solution to understand / that to see
'Paul tried to die/understand the solution/see that.'

(104) a. *Paul überzeugte Felix/ stachelte Felix an, zu sterben/ um-zu-fallen.
Paul persuaded Felix/ spurred Felix VERBPTKL to die/ VERBPRTL-to-fall
'Paul persuaded/incited Felix to die/to fall.'

b. Paul überzeugte[30] Felix/ stachelte Felix an, sie zu treten.
Paul persuaded Felix/ spurred Felix VERBPTKL her to kick.
'Paul persuaded/incited Felix to kick her'

And thirdly, the ability to form verbal passives (105), which are formed with the auxiliary *werden* 'become' in German, and are thus unambiguously different from adjectival passives formed with the auxiliary *sein* 'be'. Even though according to the standard assumption the

[30] Since the use of *force* and *persuade* as standard examples of object control verbs is semantically often rather odd with psych verbs, *aufstacheln* 'incite', and *bitten* 'ask to do' were also used in addition, since they allow to form more natural sentences with this kind of psychological verbs.

ability to form verbal passives in German depends on the agentivity of the subject (see e.g. Wunderlich 1985), this view is not unproblematic, since e.g. SubjExp verbs like in (106) do show verbal *werden*-passives even though they do not have an agent subject. Agentivity of the subject appears rather to be one factor among several others which determine the ability to passivize in general (see Zifonun et al. 1997). However, for ObjExp verbs, the correlation between agentivity and verbal passivization has been claimed to be straightforward: the general consensus about these verbs is that verbal passives are only possible for verbs which have an agentive version (see Fanselow 1992; Verhoeven 2014, 2015).

(105) a. Peter wurde von Maria geärgert.
Peter became by Maria annoyed
'Peter was annoyed by Maria.'

b. *Peter wurde von Maria fasziniert.
Peter became by Maria fascinated
'Peter was fascinated by Maria.'

(106) Dieser Lehrer wurde von den Schülern geliebt.
this teacher became by the pupils loved
'This teacher was loved by the pupils.'

For all three agentivity tests the prediction is that agentive verbs should get high acceptability judgment values, comparable to those of the control group, whereas nonagentive verbs were expected get low scores. If the assumed dichotomy of ±agentive vs. –agentive is correct, one would expect to obtain a clear difference between one group of ObjExp verbs with very high acceptability ratings compared to one group with very low ratings. Differences between verbs of the two groups, but not within the two groups, should be statistically significant.

4.1.1.2. Event structure test

Fourthly, an event structure test, compatibility with *for*-adverbials 'X time *lang*' measuring the duration of the event was included to investigate the intuition that some these verbs behave like activities, since modification with durative adverbials is generally possible with atelic durative predicates, i.e. states and activities, but is not possible with telic achievements, and only marginally acceptable with accomplishments (Dowty 1979: 56). The test in the questionnaire study (see 107) was manipulated in a way that it was clearly incompatible with states, since only the agentive uses of the verbs were of interest. Consequently, in fact, this event structure test is a test for being an activity in the Dowty-Vendler sense. Therefore, the prediction for the

fourth test is that only activity verbs should get high scores, whereas accomplishments might be acceptable under an iterative reading, i.e. with lower scores, but achievements and states should get very low scores.

(107) Peter ärgerte Maria zehn Minuten lang (, danach verlor er den Spaß daran und hörte auf.)
'Peter annoyed Maria for ten minutes, then, he didn't take any pleasure in it any longer, and stopped doing it.'

4.1.1.3. Results and discussion

The results reveal clear differences with respect to agentivity and eventivity (see Table 5), and basically replicate the results in Verhoeven (2014, 2015) in general, but they also show that the results for individual verbs can vary depending on the different tests used, which underscores the necessity to consider several tests for a reliable classification.

TABLE 5: Mean values of acceptability ratings on a 7-point scale (standard deviation)

Verb	I. Compatibility with **agentive adverbs**	II. Being embedded under an **object control predicate**	III. **Passivization**	IV. Compatibility with **durative adverbials**
ärgern 'annoy'	6.49 (1.03)	6.22 (1.15)	6.34 (1.13)	5.95 (1.45)
erschrecken 'frighten'	6.37 (0.94)	6.15 (1.10)	6.32 (1.11)	4.41 (2.03)
beruhigen 'calm'	3.59 (2.04)	6.27 (1.34)	6.27 (1.20)	5.83 (1.44)
ängstigen 'frighten'	5.15 (1.94)	4.41 (1.96)	3.80 (2.04)	3.63 (2.03)
enttäuschen 'disappoint'	5.15 (1.70)	3.61 (1.83)	6.39 (1.28)	2.27 (2.23)
beunruhigen 'worry'	4.66 (1.92)	4.24 (1.92)	4.51 (1.84)	3.63 (1.85)
beeindrucken 'impress'	4.07 (2.05)	4.00 (1.83)	4.61 (2.05)	3.46 (1.92)
begeistern 'enthuse'	3.27 (1.84)	3.34 (1.92)	3.29 (1.84)	3.43 (2.10)
anwidern 'disgust'	3.24 (1.89)	2.61 (1.70)	3.07 (2.08)	2.51 (1.66)
faszinieren 'fascinate'	2.61 (1.87)	2.68 (1.90)	3.02 (2.06)	2.49 (1.55)
erstaunen 'amaze'	2.66 (1.74)	2.68 (1.49)	2.24 (1.26)	2.31 (1.52)
interessieren 'interest'	1.61 (1.15)	1.61 (1.07)	1.41 (0.97)	2.24 (1.57)
Control group 'canonical trans. verbs'	6.29 (1.18)	6.11 (1.37)	6.63 (0.92)	5.64 (1.57)
treten 'kick'	6.34 (1.28)	6.12 (1.35)	6.66 (0.96)	5.71 (1.57)
schlagen 'beat'	6.22 (1,19)	6.12 (1.41)	6.78 (0.69)	6.29 (1.00)
zwicken 'pinch'	6.15 (1.29)	6.05 (1.47)	6.51 (1.08)	5.39 (1.84)
schubsen 'push'	6.46 (0,98)	6.15 (1.28)	6.59 (0.95)	5.17 (1.90)

Some verbs, like *faszinieren* 'fascinate' or *interessieren* 'interest', get very low scores, while other verbs get significantly higher or very high acceptability judgements in the tests. The overall result and behaviour of the verbs is pretty similar to what Verhoeven (2014) reports about the behaviour of these verbs in different agentivity tests. However, this means that the results show a rather continuous distribution of the different verbs with a range of mean values from 1.4 for *interessieren* 'interest' to 6.49 for *ärgern* 'annoy' in agentivity tests, while the other verbs get all kinds of different values in-between these two poles. But, crucially, they do not fall into two clearly separable groups. The results show beyond doubt that there are clear differences between verbs which can be 'strongly agentive' and others which are not. In that sense, the possibility of being agentive is an important aspect to characterize ObjExp verbs, which highlights differences between these verbs. Consequently, the results disconfirm Härtl's (1999, 2001a, 2008) claims that all ObjExp are agentive, and could be interpreted as a confirmation of the ±agentive vs. –agentive distinction of Class II ObjExp verbs in descriptive terms. However, since the verbs do not fall into two clearly separated groups but display a rather continuous distribution along the dimension of agentivity (in this study as well as according to Verhoeven's (2014, 2015) empirical results), the crucial question still remains how this dichotomous grouping of verbs should be executed.

Moreover, a crucial observation puts the dichotomy view further into doubt: the verbs of the third 'problematic' group like *ärgern* 'annoy/anger' get very high scores for both agentivity and eventivity: they are to the postdecimal position identical to the control group of 'canonical transitive' verbs, and are significantly different from 'agentive' ObjExp verbs such as *enttäuschen* 'disappoint', or *beunruhigen* 'worry/disturb' (as two-tailed sign tests with $\alpha=0.05$ reveal). In addition to that, two-tailed sign tests (with $\alpha=0.05$) also reveal that there are significant differences ***within*** the '–agentive group', and the '±agentive group', for example between *interessieren* 'interest' and all other '–agentive verbs'. The picture that emerges from the close analysis of the data is two-fold: firstly, there are clear differences between ObjExp verbs which can be 'strongly agentive', and others which are not, but there are also significant differences between all '±agentive' and '–agentive' ObjExp verbs on the one hand, and the *ärgern*-type of verbs, which are almost identical to the control group of canonical transitive verbs, on the other hand. And, thirdly, there are significant differences ***within*** the different groups. Consequently, rather than a dichotomous separation of the verbs, these results show a continuous pattern of agentivity as described for French by Martin (2013), who argues against a strict distinction of agentive and nonagentive verbs, calling the latter verbs "weakly agentive" instead (see also Grafmiller's (2013) empirical results for English). This idea to reject a

dichotomous difference between these two groups of verbs, which is often conceptualized as being encoded in the lexical entry of the respective individual verb, gains further attractiveness once we take into account that even the 'most weakly agentive' verb, usually cited as the prime example of a '–agentive' verb, *interessieren* 'interest', can in fact have an agentive reading if a PP is added as (108) shows[31].

(108) Er hat ihn (absichtlich) für seine Pläne interessiert.[32]
he has him deliberately for his plans interested
'He (deliberately) made him interested in his plans.'

Another interesting observation contributing to the evidence that verbs like *ärgern* 'annoy' are different from the ObjExp verbs is provided by the results of the fourth event structure test. Designed to be felicitous only with activity verbs, *ärgern* 'annoy', *beruhigen* 'calm', and to some extend also *erschrecken* 'frighten', are the only verbs to get acceptability judgments which are as high as the ones for the control group of activitiy/semelfactive verbs, i.e. this is the only test in which we see a clear separation of the verbs into two different groups: the control group plus these verbs on the one hand opposed to all the ObjExp verbs on the other hand. This difference between the '*ärgern*-group' and both agentive as well as weakly agentive ObjExp verbs points to the conclusion that these verbs are in fact different from other agentive readings of ObjExp verb in an important way: they are, or can be activities, while other agentive ObjExp are accomplishments. That such differences exist has also been noted Kutscher (2009: 31), who presents this as an example of the diverse behaviour of ObjExp verbs, which has to be accounted for by any successful attempt to classify ObjExp verbs. Yet neither this difference nor the results of the questionnaire study can be explained by a dichotomous ±agentive vs. –agentive classification, which makes further investigation necessary.

To summarize, the results of the questionnaire study: firstly, ObjExp verbs differ with respect to their potential to be used agentively. There are verbs which are easier to be used agentively than others. This difference mirrors somehow the ±agentive vs. –agentive distinction, however, with an additional group of verbs like *ärgern* 'annoy'[33], whose properties are significantly different from the (other) ObjExp verbs. Their scores in the acceptability study both for agentivity and eventivity suggest that they are activities, i.e. standard transitive verbs with an agent subject and a patient object. This view is motivated by the fact that, opposed to all other

[31] This is not a peculiarity of this verbs only, see also Haider (1993: 117); as well as Bennis (2004: 105), and den Besten (1985) for the same in Dutch; and see furthermore Reinhart (2002: 271-274) on this phenomenon.

[32] Without the element in parenthesis taken from: http://www.duden.de/suchen/dudenonline/interessieren.

[33] In Verhoeven (2014), other verbs which get very high ratings are *nerven* 'bother', *reizen* 'stimulate, provoke', *schockieren* 'shock' (see 4.1.2, and the discussion at the end of 4.1.3 on these verbs).

ObjExp verbs, these verbs get significantly higher scores in all three agentivity test, which are almost identical to the control group of 'canonical transitive' verbs, and the event structure test suggests that they are atelic, durative activities in the Vendlerian sense. Besides, the acceptability judgement results for all verbs show significant differences even ***within*** the same group of '±agentive/–agentive' verbs as well as a ***continuous*** distribution rather than a dichotomous distinction for the property of agentivity in general. The results with respect to agentivity in this study as well as for the other verbs tested by Verhoeven (2014, 2015) are therefore in principle also compatible with Grafmiller's (2013) claims that, at least '±agentive' ObjExp verbs are underspecified for agentivity just like other causative verbs, and the differences between them could be rather probabilistic based on factors like the individual speaker's knowledge, and use of a verb. However, while the general form of the continuous distribution is in line with Grafmiller's claims, and his results for English, the challenge for approach is to explain why some of the verbs get relatively stable high acceptability judgements, while others get very low judgements, and, thus, have to be considered ungrammatical under an agentive reading. In addition, the puzzling behaviour of some '(±)agentive' ObjExp requires further investigation.

4.1.2. Differences within the group of '(±)agentive verbs'

As just shown, aspectual properties of some of the verbs which are usually grouped together as a homogeneous group of accusative Class II ObjExp verbs, seem to make this distinction problematic, and call the homogeneity of these verbs into question. This is especially important because many other properties of these verbs seem neither to follow from the (±)agentivity property nor can be predicted by it, but agentivity appears to interact with other characteristics, especially the event structure properties, which together determine the diverse behaviour of these verbs (see Landau 2010: 128-131; Grimshaw 1990). Therefore, firstly, event structure tests will be applied to shed more light on these properties, which will confirm the result of the questionnaire study that there is a difference between certain verbs, most prominently *ärgern* 'annoy', *reizen* 'stimulate', and *beruhigen* 'calm' but also to some extend *erschrecken* 'frighten', which sets them apart from the rest of the verbs which are usually labelled as Class II accusative ObjExp verbs. This is an important observation in itself as well, because *ärgern* is one of the most frequently used examples in the literature, and many generalizations about ObjExp verbs are based on the behaviour of this particular verb, which in fact turns out to constitute a particularly tricky case.

4.1.2.1. Simple event structure

A first indication of this is the fact that *-ung* nominalizations are not possible with *ärgern* 'annoy', and *reizen* 'stimulate', as opposed to other ObjExp verbs (109).

(109)
a. *Ärger-ung
annoy-SUFFIX
b. *Reiz-ung[34]
provoke- SUFFIX
c. Beruhig-ung
calm- SUFFIX
d. Beunruhig-ung
worry/alarm-SUFFIX
e. Enttäusch-ung
disappoint-SUFFIX
f. Ermutig-ung
encourage-SUFFIX

Since Roßdeutscher & Kamp (2010) have shown that *-ung* nominalizations in German are only available for verbs with complex bi-eventive structure, the verbs like *ärgern* 'annoy'*, reizen* 'provoke', appear not to have a complex event structure, which sets them apart from the other Class II ObjExp verbs, which are usually considered to be (causative) bi-eventive change-of-state verbs. By contrast, *ärgern*, etc. seem to have the syntactic structure of monoeventive eventualities.

4.1.2.2. No change of state and no result state

There is a general consensus in the literature that agentive readings of ObjExp verbs are eventive verbs, which contain a change of state to a result state in the experiencer, as discussed in chapter 2 and 3. This change of state is expected to be absent only in the '–agentive verbs'. Consequently, the observation that verbs like *ärgern* 'annoy' in their agentive use are monoeventive verbs, and do neither contain a result state nor a change of state is all the more striking. Yet this can be explained if their agentive uses are in fact standard activity verbs.
It is a well-known observation that *for*-adverbials can have two different readings depending on whether they modify a result state (RS-related interpretation) or the eventuality component (E-related interpretation) of a predicate (see Dowty 1979; Piñón 1999). German has two different versions of *for*-adverbials to express the two readings, which resolve the ambiguity between the RS-related interpretation '*für* X time' see (110a), and the E-related interpretation 'X time *lang*' see (110b). Thus, the compatibility with the PP '*für* X time' is unambiguously a

[34] Please note: this noun exists, however, only with a physical reading *eine Reizung der Haut* 'irritation of the skin' but not for the psych reading.

diagnostic showing whether a given verb contains a result state (see Piñón 1999; Engelberg 2000b).

(110) a. Manuela ist für zwanzig Minuten in das Wasser gesprungen. (RS-related)
Manuela is for twenty minutes into the water jumped
'Manuela jumped into the water for twenty minutes.'

b. Manuela ist zwanzig Minuten lang in das Wasser gesprungen. (E-related)
Manuela is twenty minutes long into the water jumped
'Manuela jumped into the water (repeatedly) for twenty minutes.'

(Piñón 1999: 421, (17))

Contrary to ObjExp verbs like e.g. *beeindrucken* 'impress' (111), which allow both readings, *ärgern* 'annoy' does not allow for the result state related reading (112), which is expected if *ärgern* is indeed a monoeventive verb consisting of a single eventuality only.

(111) a. Peter hat mich für zwanzig Minuten beeindruckt. (RS-related)
Peter has me for twenty minutes impressed

b. Peter hat mich zwanzig Minuten lang beeindruckt. (E-related)
Peter has me twenty minutes long impressed

(112) a. *Peter hat mich für zwanzig Minuten geärgert. (RS-related)
Peter has me for twenty minutes annoyed

b. Peter hat mich zwanzig Minuten lang geärgert. (E-related)
Peter has me twenty minutes long annoyed

The fact that (112a), i.e. the result related interpretation, is not possible for *ärgern* 'annoy' demonstrates that, contrary to Class II ObjExp verbs (in their agentive reading), the *ärgern*-type verbs do not contain a result state, and, consequently, do not contain a change of state. This adds another piece of evidence to the claim that *ärgern*, etc. in their agentive uses are, in fact, activity verbs, since these, as opposed to accomplishments, only allow for the eventuality related reading. The result state cannot be delimited here, because there is no result state present in activities (see Dowty 1979: 58).

This is further underscored by the observation that the attributive use of the past participle is not possible with *ärgern* 'annoy' (113a), which would be totally unexpected, if *ärgern* was a change of state verb like other ObjExp verbs (113b-c), since the past participle can always be used attributively with verbs that contain a result state in German[35] (see Engelberg 2000a: 57).

[35] It can also be used with transitive verbs without a result state, however, with a different interpretation, as Engelberg (2000a) shows.

(113) a.*der geärgerte Mann[36]
the annoyed man

b. der enttäuschte Mann
the disappointed man

c. die beunruhigten Anwohner
the worried residents

4.1.2.3. Compatibility with adverbial modifiers

The picture is completed by the results of two standard tests involving adverbial modification. Compatibility with durative adverbials is a standard test for atelicity, which distinguishes between activities and accomplishments (see Dowty 1979: 56). Only atelic predicates, i.e. predicates which do not contain a culmination or endpoint allow for modification by these adverbials. As (114) shows *ärgern* 'annoy' is only compatible with durative *for*-adverbials but not with *in*-adverbials. This empirical behaviour sets it apart from the other causative change-of-state ObjExp verbs of Class II, which are usually considered to be accomplishments (see e.g. Pylkkänen 2000; Landau 2010), and allow for the modification by *in*-adverbials (115).

(114) Peter ärgerte Maria stundenlang/ *in kurzer Zeit.
Peter annoyed Maria for.hours / *in short time

(115) Peter enttäuschte / beeindruckte Maria in kurzer Zeit / */?? stundenlang.
Peter disappointed/ impressed Maria in short time / for.hours

To sum up the results of the event structure tests, *ärgern* 'annoy', *reizen* 'provoke', *stören* 'disturb', and to some extend *erschrecken* 'frighten', and *beruhigen* 'calm' do not pattern with the other Class II ObjExp verbs, which are change-of-state causatives. Especially *ärgern* clearly lacks a result state, and change of state but behaves likes an atelic predicate, i.e. a state or an activity in the Vendlerian typology as opposed to the Class II ObjExp verbs, which involve a change of state, i.e. are accomplishments, or achievements.

A standardly used test to disambiguate between these two atelic predicates is modification by locative modifiers (see e.g. Rothmayr 2009). Stative verbs are not compatible with locative adverbials, while activities are. Contrary to that, *ärgern* 'annoy' does allow for modification by locative modifiers as in (116).

[36] The only scenario under which such a form might be marginally acceptable is under a 'the job is done/over reading' analogous to *Die Katze ist gestreichelt* 'The cat is petted' → ??*die gestreichelte Katze* 'the petted cat', as described by Kratzer (2000: 388). Crucially, as Kratzer points out, these readings are marginally felicitous for *activity* verbs.

(116) Peter ärgerte Maria auf dem Schulhof / im Garten.
Peter annoyed Maria on the schoolyard/ in.the garden

(117) Peter erschreckte/ beruhigte Maria auf dem Schulhof / im Garten.
Peter frightened / calmed Maria on the schoolyard/ in.the garden

This shows that atelic *ärgern* 'annoy' with an animate subject cannot be a state.[37] This is further underscored by the results of a standard test to disambiguate between states and activities: anaphoric reference with *geschehen* 'happen' (see Maienborn 2003, 2005). As illustrated in (118), anaphoric reference with *geschehen* 'happen' is felicitous with dynamic activities but not with states:

(118) a. Eva spielte Klavier. Das geschah während…
Eva played piano. This happened while…

b. Eva besaß ein Haus. *Das geschah während…
Eva owned a house. This happened while…

(Maienborn 2005: 285-286, (11a), (13a))

Since *ärgern* and *erschrecken/beruhigen* pattern exactly like the activity verb in (118a), allowing for anaphoric reference with *geschehen* 'happen' (see 119–120), they cannot be states, but are activities.

(119) Eva ärgerte Adam. Das geschah während…
Eva annoyed Adam. This happened while…

(120) Eva erschreckte / beruhigte Adam. Das geschah während…
Eva frightened / calmed Adam. This happened while…

Moreover, even if it is difficult to come up with sensible examples, *ärgern* 'annoy', just as typical activity verbs, can even be modified by manner adverbials like *unnachgiebig* 'relentlessly', or *lustvoll* 'with relish' as in (121a), which is completely ungrammatical with ObjExp verbs as (122b-c) show.

(121) a. Peter ärgerte Maria unnachgiebig/unablässig / lustvoll.
Peter annoyed Maria relentlessly / with relish

b. *Peter beeindruckte Maria unnachgiebig/unablässig / lustvoll.
Peter impressed Maria relentlessly / with relish

[37] When used with an inanimate subject *ärgern* like *freuen, wundern*, etc. is a stative verb (see discussion and tests applied in 4.3, and 4.4).

c. *Peter faszinierte Maria unnachgiebig/unablässig / lustvoll.
Peter fascinated Maria relentlessly / with relish

A final piece of evidence for the different nature of *ärgern* as opposed to other agentive change-of-state ObjExp verbs comes from modification with *ein bisschen* 'a little bit'. Maienborn (2003) shows that *ein bisschen* is ambiguous between an interpretation as degree modifier indicating the extend of a given situation, and an event modifier reading, which evaluates the duration of a situation. In the former use its antonym is *sehr/ziemlich* 'very/quite/fairly', whereas in the latter it denotes the contrary to *ausgiebig/lange* 'extensively/long'. Crucially, as Maienborn (2003) highlights, the reading as an event modifier of the duration of situations is only possible for homogeneous situations, i.e. processes/activities (see also Engelberg 2005), and states[38] but not for 'culminations' like change-of-state accomplishments, or achievements, as illustrated in (122).

(122) a. Ich habe ein bisschen gelesen.
I have a litte.bit read
'I was reading for a short time.'

b. Er hat die Tür ein bisschen geöffnet.
he has the door a litte.bit opened
'He opened the door a little bit.'
#'He was opening the door for a short time.'

For *ärgern* the modifier *ein bisschen* is ambiguous between a degree modifier and an event modifier interpretation (see 123a). The important observation is that the event modifier reading measuring the duration of the situation is available for *ärgern*, whereas it is not felicitous for (±)agentive ObjExp verbs like *enttäuschen* 'disappoint', for which only the degree modifier reading is possible (see 123b), like for other change-of-state causatives (see 123b).

(123) a. Anna hat Paul ein bisschen geärgert.
Anna has Paul a little.bit annoyed
Event modifier reading: 'Anna was annoying Paul for a short time.'
Degree modifier reading: 'Anna annoyed Paul a little bit.'

b. Anna hat Paul ein bisschen enttäuscht.
Anna has Paul a litte.bit disappointed

[38] More precisely, only those states which Maienborn (2003) calls D-states (Davidsonian states) such as *schlafen* 'sleep', *warten* 'wait', *sitzen* 'sit', etc. show the event modifier of situation duration reading with *ein bisschen*, whereas 'regular' stative verbs, called K-states (Kimian states), like *kennen* 'know', *lieben* 'love', *hassen* 'hate', *kosten* 'cost', etc. only have the degree modifier interpretation with *ein bisschen*.

Event modifier reading: #'Anna was disappointing Paul for a short time.'
Degree modifier reading: 'Anna disappointed Paul a little bit.'

The degree modifier interpretation for *ärgern* corresponds to the nonagentive stative reading (see 4.3), under which it is something about the subject that annoys the experiencer without any action by the subject; this reading of *ein bisschen* is also possible with inanimate subjects. The event modifier reading is only possible for agentive *ärgern*, and proves that it is a process/ activity in its agentive use, contrary to agentive uses of (other ±agentive) ObjExp verbs, which denote change-of-state 'culminations', i.e. accomplishments, or achievements.

4.1.2.4. Compatibility with PP instruments

Finally, compatibility with PP instruments is an interesting and informative diagnostic because it has been discussed in the context of psych verbs with some prominence in the literature (see Rapp 1997; Engelberg 2015). Verbs with a 'real' agent allow for modification by PP instruments as (124) shows. Applying this test, it is important to pay attention to the difference between 'real' PP instruments, and what Engelberg (2015) calls *gespaltene Stimuli* 'split stimuli' (see 4.4.8 for a more details). Whereas the *mit*-PPs in (124) express 'real' instruments, (125a) illustrates a case of a 'split stimulus', not a real instrument because here the *mit*-PP can be paraphrased by a modal clause (*indem*… 'by doing…') as in (125c), the sentence is roughly equal to (125b), which is not the case with 'real' instruments (see Rapp 1997: 71-73).

(124) a. Peter schlug sie mit einem Stock.
Peter hit her with a stick

b. Peter ärgerte sie mit einem Stock.
Peter annoyed her with a stick

(125) a. Peter beeindruckte mich mit seinen Fragen.
Peter impressed me with his questions

b. Peters Fragen beeindruckten mich.
Peter's questions impressed me

c. Peter beeindruckte mich, indem er Fragen stellte.
'Peter impressed me by asking questions.'

The constructions featuring a 'split stimulus' are typical for ObjExp verbs (as well as for other causative change-of-state verbs), as Rapp (1997) and Engelberg (2015) show (see also Bennis 2004 on Dutch; Klimek & Rozwadowska 2004 on Polish). Contrary to that, the *mit*-PP used

with '*ärgern* verbs' is not a split stimulus, but a 'real' PP instrument, which once again sets them apart from ObjExp verbs, which have the ability to feature 'split stimuli', but seem not to contain the same kind of agent, since PP instruments are not possible with these verbs.

4.1.2.5. Summary of the event structure tests

All in all, the results of all the event structure tests point in the same direction: *ärgern* 'annoy', as well as *erschrecken* 'frighten', and *beruhigen* 'calm' with some restrictions, differ from Class II ObjExp verbs as TABLE 6 summarizes, and seem to be, or at least can be, standard transitive activity verbs in their use with an animate agentive subject.

TABLE 6: Event structure differences between ObjExp and *ärgern*-type verbs

Test	**ObjExp Class II verbs agentive reading/use**	***'ärgern* verbs' agentive reading/use**
Compatibility with agent-oriented adverbs	Agentive reading	Agent
Compatibility with PP instruments		
Mental entailment test	Change of state in the experiencer	No change of state in the experiencer
Compatibility with result state related *for* adverbials		
Attributive use of the past participle	Result state	No result state
-ung nominalizations	Complex event structure: bieventive	Simple event structure: monoeventive
Modification with *ein bisschen*	Only degree modifier (of the result state)	Ambiguous between degree and event modifier: → homogeneous process
	Accomplishment (change-of-state causative)	**Activity**

The lack of *-ung* nominalizations as well as their incompatibility with result state related *for*-adverbials, show that they do not contain a complex bi-eventive structure as opposed to causative change-of-state ObjExp verbs but that their event structure is monoeventive. Further tests to disambiguate between monoeventive stative and monoeventive dynamic predicates indicate that these verbs cannot be states when used with an animate subject but are activities in the Vendlerian sense. Being activities, i.e. monoeventive dynamic predicates, which contain an agent, but no change of state to a result state in the experiencer, they differ starkly from all descriptions of ObjExp Class II verbs in the literature, which conceptualize these verbs to contain an agent plus a change of state in the experiencer under their agentive reading.

4.1.2.6. Mental state entailment test

Since the very core which defines a verb as a psych verb is that it "carries psychological entailments with respect to one of its arguments (the experiencer)" (Landau 2010: 137, note 2), it is stunning that examples like (126–129) show that this kind of mental state entailment is not (necessarily) present in the agentive use of the '*ärgern*-verbs' usually labelled as ObjExp verbs. While (127) and (128) might appear to be more controversial, the clear fact that (126) does not yield any contradiction, as opposed to the other ObjExp verbs such as (129), shows that the agentive use of *ärgern* 'annoy' lacks the mental entailment[39], which defines psych verbs.

(126) Peter ärgerte Maria, aber Maria ärgerte sich nicht/ ärgerte das nicht.
Peter annoyed Maria, but Maria annoy REFL not / annoyed that not
'Peter annoyed Maria, but Maria did not get annoyed.'

(127) Er beruhigte sie (stundenlang), aber sie beruhigte sich (einfach) nicht.
he calmed her (hours.long), but she calmed.down REFL (simply) not
'He was calming her (for hours), but she (simply) did not calmed down.'

(128) Die älteren Schüler erschreckten uns, aber wir erschraken nicht.
the older pupils frightened us but we frightened not
'The older pupils frightened us, but we did not get frightened.'

(129) #Peter beunruhigte Maria, aber Maria beunruhigte sich nicht.
Peter worried Maria, but Maria worried REFL not
'Peter worried Maria, but Maria was not/did not get worried.'

This perfectly fits into the picture which has emerged from the different diagnostics applied so far, and can straightforwardly be explained if the '*ärgern*-verbs' in their agentive use are indeed activity verbs with a regular 'real' agent subject and a patient object, contrary to Class II ObjExp verbs.

4.1.2.7. 'Defeasible causatives' (Martin & Schäfer 2012a, 2012b)

The observation that certain ObjExp verbs show a distinct behaviour in their agentive reading has already been made by Martin & Schäfer (2012a, 2012b). On the basis of the non-contradictory continuation of sentences like (130) in contrast to (131), they demonstrate that some psych verbs (like verbs from five other semantic classes) show an ambiguity in their

[39] Beavers (2011) proposes a similar test, i.e. whether the form ϕ *but not* ψ results in a contradiction, as a diagnostic for the entailment of change in general "defined as a target state ψ obtaining for participant x as a result of the predicate entailment ϕ being true" (2011: 341).

agentive use: with agentive subjects they are used to denote an act performed with the intention of triggering a certain result, however, this result does not have to occur for the sentence to be true, whereas if the same verbs are used with causer subjects, i.e. in a nonagentive eventive version, they entail the occurrence of the result.

(130) John insulted Mary, but she didn't take it to heart at all.
(131) Being chosen last insulted Mary, #but she didn't take it to heart at all.

Using a number of event structure tests, they argue that this ambiguity with these ObjExp verbs[40] cannot be due to event structure differences between the agentive and the nonagentive reading, since their tests show that both readings are bi-eventive. Therefore, they propose an analysis as 'defeasible causatives'. Three aspects of their work are relevant for the discussion here: firstly, *beruhigen* 'calm' is one of the psych verbs Martin & Schäfer (2012a, 2012b) discuss, so the observed divergence of its empirical behaviour from the rest of ObjExp verbs might be accounted for on the basis of its being a 'defeasible causative'. This explanation is also in line with our observation that *beruhigen* as opposed to *ärgern, reizen*, etc. allows for an *-ung* nominalization (see (109) in 4.1.2.1). The discussion in section 4.2 will reveal that *beruhigen* patterns exactly like other verbs which occur in the causative–anticausative alternation, in that its causative use is ambiguous between an agentive atelic and an eventive telic reading, which is the reason for the observed behaviour here. Secondly, more in general, as the discussion in Martin & Schäfer (2012a, 2012b) shows, event structure, especially event complexity, is an important issue, which has to be taken into account for classifying the verbs under consideration here and their empirical behaviour. And, thirdly, however, most importantly, the divergent behaviour of verbs like *ärgern* 'annoy' cannot be explained making reference to the concept of 'defeasible causatives', because these verbs – contrary to 'defeasible causatives' – do not have a complex event structure but differ from ObjExp verbs in their event structure properties, as has just been shown.

4.1.2.8. *AcI* with perception verbs, and *lassen*-passive

A final piece of evidence for the different status of *ärgern*-type verbs as activities comes from their compatibility with two syntactic constructions, the *Accusativus cum Infinitivo* (*AcI*) with

[40] The verbs they mention are: *ermutigen* 'encourage', *schmeicheln* 'flatter', *provozieren* 'provoke', *beleidigen* 'offense', *ermuntern* 'push to', *beruhigen* 'reassure', *einschüchtern* 'intimidate', *belästigen* 'tease' (see Martin & Schäfer 2012b: 249).

perception verbs (see e.g. Pafel 2011: 190-193 on *AcI* in German in general), and the *lassen* 'let' passive, which show that they are action verbs with a 'real' agent, and a patient, or theme object, and further highlight the difference between these verbs and ObjExp verbs.

Firstly, *ärgern*-type verbs can be complements in *AcI*-constructions with perception verbs contrary to other agentive ObjExp verbs like *enttäuschen* 'disappoint' as demonstrated in (132). The prerequisite to be felicitous in such a construction seems to be that some action, in this case by the agentive subject, can be observed by the speaker, which is the case for the activity verbs with agent-subjects, but not for the ObjExp verbs.

(132) a. Ich sah Paul seinen Bruder ärgern.
I saw Paul his brother annoy
'I saw how Paul was annoying his brother.'

b. Ich sah Anna (die ganze Zeit) Paul stören/ nerven.
I saw Anna the whole time Paul disturb/ annoy/vex
'I saw how Anna was disturbing/vexing Paul all the time.'

c. Ich sah wie Anna Paul (die ganze Zeit) störte/ nervte
I saw how Anna Paul the whole time disturbed/ annoyed/vexed
'I saw how Anna was disturbing/vexing Paul all the time.'

d. *Ich sah Paul seinen Bruder enttäuschen.
I saw Paul his brother disappoint
'I saw how Paul was disappointing his brother.'

e. *Ich sah, wie Paul seinen Bruder (die ganze Zeit) enttäuschte.
I saw how Paul his brother the whole time disappointed
'I saw how Paul was disappointing his brother.'

The same difference can be observed with respect to the behaviour of these verbs in the *lassen*-passive (see on this construction DUDEN Die Grammatik 2009: 815; Pafel 2011: 176-177; Müller 2013: 303-304; Pitteroff 2014: 77-92). While verbs like *ärgern* are felicitous in the *lassen*-passive[41], agentive ObjExp verbs, such as e.g. *enttäuschen* 'disappoint', are not as (133)

[41] While the distinction between *lassen*-passive, and *AcI*-constructions with *lassen* is not always clear-cut and easy to draw (see DUDEN Die Grammatik 2009: 815), the examples discussed here are to be considered examples of the *lassen*-passive, even though they exhibit the permissive reading, and not the causative reading. In general, both readings are possible in the active, while the passive is usually associated with the causative reading only. However, as Müller (2013: 303-304) points out, the *lassen*-passive can also have a permissive reading if the subject of the embedded clause is a reflexive like in (133), or his example (i), an observation attributed to Reis (1976: 13).

(i) Gerhard Schröders Doppelgänger mußte sich in Abwesenheit des Originals die Leviten lesen
Gerhard Schröder's doppelganger had.to REFL in absence the.GEN original the levites read
lassen.
let
'While Gerhard Schröder was not present, his doppelganger had to put up with being read the riot act.'
(Müller 2013: 304, (65a), taken from: *Mannheimer Morgen*, 05/03/1999)

shows. While the *lassen*-passive can only be formed with verbs which allow for verbal passivization, it is not the case that all verbs which can form verbal passives can also form *lassen*-passives, as demonstrated e.g. by the example sentences (133): *enttäuschen* 'disappoint' can very well form verbal passives, as the questionnaire study has shown, but it cannot be used in the *lassen*-passive.

(133) a. Ich musste mich mein ganzes Leben lang von Beamten ärgern lassen.
I had.to me my whole life long by civil.servants annoy let
'I have had to put up with civil servants constantly annoying me for my whole life.'

b. *Ich musste mich mein ganze Leben lang von Beamten enttäuschen lassen.
I had.to me my whole life long by civil.servants enttäuschen let
'I have had to put up with civil servants constantly disappointing me for my whole life.'

That only a subset of the verbs available for verbal passivization is felicitous in the *lassen*-passive has been established as a general observation in the literature (see Reis 1976; Müller 2013; among others). Especially interesting is that SubjExp verbs are infelicitous in the *lassen*-passive, even though they are perfectly fine in the verbal *werden*-passive in German, as Pitteroff (2014: 88-89) observes (see 134). His explanation is that diametrically opposed constraints on their subjects make it impossible to use SubjExp verbs in the *lassen*-passive: while SubjExp verbs are incompatible with matrix agents but only allow for inanimate matrix subjects as their use in periphrastic causative constructions shows as well, *lassen*-passives require matrix agents, since they are infelicitous with inanimate matrix subjects.

(134) a. *Stephen King/ der Roman *ES* lässt Clowns von vielen Erwachsenen fürchten.
Stephen King/ the novel *IT* lets clowns by many adults fear
'Stephen King/ the novel *IT* makes many adults fear clowns.'

b. Clowns werden von vielen Erwachsenen gefürchtet.
clowns become by many adults feared
'Clowns are feared by many adults.'
(Pitteroff 2014: 88, (70))

This observation combined with the difference in availability of truly agentive *ärgern* activity verbs in comparison to causative change-of-state ObjExp verbs (even under their agentive reading) seems to indicate that the restriction on the availability of *lassen*-passives is stricter than having a thematic external argument, i.e. a Voice projection under the Voice hypothesis.

Since SubjExp verbs are usually considered to be regular transitive stative verbs (see e.g. Primus 2004, 2006; Landau 2010; among others), i.e. verbs with a standard external argument, which enables them to form passives (see 5.2.1), it can be concluded that this is not enough to form *lassen*-passives in German. It seems that only verbs with true agent-subjects can feed *lassen*-passivization. These observations can be accounted for assuming that stative transitive SubjExp verbs and transitive verbs with agents contain different Voice projections following Kratzer (1996): while agentive transitive verbs contain $\text{Voice}_{\text{AGENT}}$, which seems to feed both verbal passivization and *lassen*-passives, SubjExp verbs, like other stative transitive verbs, contain a $\text{Voice}_{\text{HOLDER}}$ projection, which fulfils the requirement for verbal passivization but cannot feed *lassen*-passives. Consequently, one could draw the conclusion that *lassen*-passives can only be formed of verbs whose active form contains a $\text{Voice}_{\text{AGENT}}$ projection. The fact that activity *ärgern*-type verbs can form *lassen*-passives, while change-of-state causative ObjExp verbs (even with agentive subject) cannot, adds further evidence to the view that these verbs differ with respect to the status of their agentive subjects (see discussion in 4.1.3).

4.1.2.9. A note of caution on agentivity tests

A note of caution on 'agentivity' tests as such is in order here as well. As Martin (2013: 72-73) points out in her study on agentivity of French ObjExp verbs, the characterization of individual ObjExp verbs as 'agentive' or 'nonagentive' turns out to be tricky for several reasons: first of all, different agentivity diagnostics often lead to different results for the same verb, as our discussion has shown as well, which makes a unified explanation difficult. And, secondly, Martin notes that the data reported as the basis for the nonagentivity of some ObjExp verbs often do not stand the testing against large corpora. For these reasons, Martin (2013) only separates ObjExp into 'fully agentive', and 'weakly agentive' ObjExp verbs.

A further problem arises in the context of the most widely used agentivity test, the combination with the intentional adverbs like *absichtlich* 'deliberately/intentionally'. Buscher (2013) shows that, at least for German, such mental attitude adverbials fall into two different groups which show different selection restrictions, and different behaviour:

(135) a. Die Picknickdecke liegt absichtlich im Schatten.
the picnic.blanket lies deliberately in.the shadow

b. *Die Picknickdecke liegt freiwillig im Schatten.
the picnic.blanket lies voluntarily in.the shadow

(Buscher 2013: 137, (3), glosses are mine)

'Assimilative Adverbials (A-Adverbials)' like *freiwillig* 'voluntarily' in (135b) require a volitional agent, which has direct control over the situation, and is as a volitional actor part of the situation described by the event. 'Intentional Adverbials (I-Adverbials)' like *absichtlich* 'deliberately' in (135a) only require an initiator, and express that the situation takes place with or against the initiator's intention. They do not require that the participant directly generates the situation described but only that a certain freedom of decision to initiate the process triggering the event is assigned to the initiator. (135) shows that the argument necessary to license I-Adverbials like *absichtlich* does not need to be present in the sentence overtly but allows for pragmatically driven coercion as opposed to A-Adverbials.
Buscher explicitly points out that volitional-agent and initiator are two different roles, which exist independently of each other, as e.g. ObjExp verbs such as in (136) show. While the host/the professor in (136) can be identified as initiator, and can thus serve as 'anchor argument' for *absichtlich* 'deliberately', he cannot be interpreted as volitional-agent.

(136) a. Der Gastgeber hat absichtlich seine Gäste gelangweilt.
the host has deliberately his guests bored
'The host deliberately bored his guests.'

b. *Der Gastgeber hat freiwillig seine Gäste gelangweilt.
the host has voluntarily his guests bored
'The host voluntarily bored his guests.'

c. Der Professor hat absichtlich seine Studenten verwirrt.
the professor has deliberately his students confused
'The professor deliberately confused his students.'

d. *Der Professor hat freiwillig seine Studenten verwirrt.
the professor has voluntarily his students confused
'The professor voluntarily confused his students.'

(Buscher 2013: 150, (37), (38), glosses and translations are mine)

This adds a further argument to the different status of *ärgern* 'annoy/anger', since *ärgern* is compatible with both I-Adverbials as well as A-Adverbials as (137) illustrates.

(137) Ich habe ihn freiwillig geärgert (niemand hat mich dazu angestiftet)[42].
I have him voluntarily annoyed (no-one has me there.to incited
'I annoyed him voluntarily, nobody told me to do that.'

[42] Even though this sentence might sound strange out of context, it is certainly not ungrammatical, and good in the appropriate context, which is easy to image: e.g. a teacher asking a pupil why he did something to one of his fellow students assuming the actions where part of an action initiated by a group/some individual telling others what to do.

This shows that the subject of agentive *ärgern* is a 'volitional-agent' controlling the situation and course of the action directly as opposed to the 'initiator' only subject of ObjExp verbs as in (136).

4.1.3. Summary and conclusion

To summarize, while clear differences with respect to the behaviour of individual ObjExp verbs in standard agentivity tests can be observed, the interpretation of these results, especially with respect to the question of how these differences can explain the behaviour of ObjExp verbs, and inform an appropriate analysis of these verbs is far from clear. The separation into '±agentive' and '–agentive' seems to be descriptively appropriate capturing the general tendency of these verbs, however, it does not give many insights into the grammatical behaviour of the respective verbs beyond the restrictions on agentivity. Not least because there are rather big differences with respect to the behaviour of individual verbs within both groups. The results concerning agentivity are, therefore, in principle also compatible with Grafmiller's (2013) claims that at least ±agentive ObjExp verbs are underspecified for agentivity like other causative verbs, and the differences between them are not grammatical ones but rather probabilistic. However, while the general form of the continuous distribution is in line with Grafmiller's claims, the challenge for him remains to account for the clear differences between 'fully' and 'weakly agentive', i.e. verbs which show a clear restriction on the agentive interpretation of their subject, while others do not.

Closer examination of the '±agentive' verbs shows that the verbs grouped together under this label are a more diverse and heterogeneous as the dichotomous classification suggests, since some verbs differ significantly from others. Many properties cross-cut the agentive–nonagentive distinction, like e.g. availability to form adjectival passives (as the discussion in 4.4 will show) but also the properties discussed in this section such as adverbial modification, PP-instruments/'split stimuli', *AcI* with perception verbs, *lassen*-passive, etc. Consequently, these differences cannot be explained by the agentivity distinction. Event structure turns out to be crucial for all of these questions: while most '±agentive' verbs are telic change-of-state verbs, others are in fact activities, and some verbs are ambiguous between an agentive atelic (activity) reading, and a telic eventive change-of-state reading in the way reported for eventive ObjExp verbs in the literature (see Alexiadou & Iordăchioaia 2014b; and in more detail section 4.2). Verbs like *beruhigen* 'calm', *erschrecken* 'frighten', etc. behave like typical eventive ObjExp verbs in this sense (see 138), while *ärgern* 'annoy', *reizen* 'stimulate, provoke', etc. pattern differently since they lack the eventive change-of-state reading (see 139a): in their

agentive use, they are transitive activities with regular agents as subjects, and internal direct objects (see also DUDEN Die Grammatik 2009: 547; Nicolay (2007: 203-204); Möller (2015) for a similar assessment of *ärgern*). Other verbs like *nerven* 'bother', and *stören* 'interrupt/worry' fall in-between those groups since their agentive forms do not alternate between an atelic activity reading, and a telic event reading similar to the *ärgern*-verbs. However, at least in the case of *nerven* the agentive form seems to imply a change of state, since *nerven* can be used in the adjectival passive as opposed to *ärgern, reizen, stören*, etc. Another interesting case is *erschrecken* 'frighten', which behaves similar to the typical eventive ObjExp verbs, however, with the difference that, in its eventive use, it is rather a punctual achievement, and, consequently, it alternates between the eventive achievement reading, and a semelfactive, or 'iterative activity' reading in (141b) (see also Fleischhauer 2016: 275; Härtl 2001a). The agentive *stören* 'disturb/worry' also behaves like punctual action verbs as (142b) shows, yet, contrary to *nerven* it cannot be used in the adjectival passive (142d).

(138) a. Die Mutter/ Das Lied beruhigte das Kind in zwei Minuten. (eventive COS)
the mother/ the song calmed the child in two minutes
'The mother calmed the child in two minutes.'

b. Die Mutter beruhigte das Kind zwei Minuten lang. (agentive)
the mother calmed the child two minutes long
'The mother was calming the child for two minutes.'

(139) a. *Paul/Das Lied ärgerte Anna in zwei Minuten. (telic: eventive COS)
Paul/the song annoyed Anna in two minutes
'Paul annoyed Anna in two minutes.'

b. Paul ärgerte Anna stundenlang. (agentive)
Paul annoyed Anna hours.long
'Paul was annoying Anna for hours.'

c. Diese Vorschrift ärgert Anna.
this regulation annoys Anna

d. *Anna ist geärgert (über diese Vorschrift).
Anna is annoy.PASTPART about this rule

(140) a. */??Paul nervte mich in einer Minute. (eventive COS)
Paul vexes me in a minute

b. Paul nervte mich stundenlang (agentive)
Paul vexes me hours.long

c. Psych-Verben nerven Paul.
psych verbs vex Paul

d. Paul ist genervt (von Psych-Verben).
Paul is vex.PASTPART (by psych verbs)

(141) a. ??/*Paul erschreckte Anna in einer Minute.
Paul frightens Anna in a minute

b. Paul erschreckte immer wieder/stundenlang Kinder.
Paul frightens always again for.hours children
'Paul is always frightening children for hours.'

(142) a. Anna störte Paul immer wieder/ stundenlang.
Anna disturbed Paul always again
'Anna was disturbing Paul again and again/for hours.'

b. Anna störte und störte und störte.
'Anna interrupted, interrupted, and interrupted.'

c. Diese Vorschrift stört Anna.
this regulation bothers/worries Anna

d. *Anna ist gestört[43] von dieser Vorschrift.
Anna is bother/worry.PASTPART by this regulation

Consequently, it has to be concluded that agentivity as the central characteristic to classify ObjExp verbs turns out to be rather tricky, and seems not to be the most appropriate means to gather further insides into the characterization and analysis of German ObjExp verbs. Despite the fact that clear differences can be observed with respect to agentivity restrictions on the subjects of ObjExp verbs, the interpretation of these differences seems not be straightforward, since different tests lead to different results, and there are big differences within both groups of the '±agentive versus –agentive' dichotomy. Given that agentivity is a cluster concept, under which quite diverse agentive features such as animacy, sentience, volition, intention, control, causation, motion, change of state, responsibility, etc. are summarized (see Talmy 1985; Dowty 1991; Schlesinger 1992, 1995; Van Valin & Wilkins 1996; among others), and "a complete understanding of the nature of agency, and its relevance to lexical meaning has proven to be rather elusive" (Grafmiller 2013: 212), the rather inconclusive results agentivity delivers as the central explanatory force for the diverse behaviour of psych verbs do not surprise too much.

More in general, the observed differences in a number of domains, and the discussion in this section have added some evidence to the view that a difference between the external argument roles of causer and agent as subjects of 'agentive' verbs has to be made, as these two roles can hardly be collapsed. This seems to favour a theoretical position which argues that agent and causer subjects are different, and should not be generally subsumed under one notion, as e.g. in Van Valin & Wilkins (1996), or Ramchand (2008), but have to be distinguished for several

[43] Please note: the adjective *gestört* exists, however, only as the short form of *psychisch gestört* meaning 'insane/mentally deranged', and is usually only used pejoratively like in the sentence *Sie ist gestört!* 'She is insane!'.

reasons, as e.g. argued for by Reinhart (2002), Folli & Harley (2005), Alexiadou & Schäfer (2006), Alexiadou et al. (2015) among others. As the discussion of German ObjExp verbs has shown, 'real' agents show empirical behaviour which is different from 'agentive' readings of ObjExp verbs, for instance, with respect to their compatibility with PP instruments, and the 'resultativity restrictions' (see Schäfer 2012): while (eventive) causers are subject to the resultativity restriction, agents are not.

With respect to the observed qualitative and quantitative difference between activity verbs like *ärgern*, and other agentive ObjExp verbs both in the questionnaire study as well as in a number of diagnostics, the empirical results in this section indicate that the crucial characteristic of all ObjExp verbs, irrespective of agentivity restrictions on their subjects, is their causative structure (see Rapp 2001b). These verbs are (like other) change-of-state causatives, however, with a difference with respect to the interpretation of their subjects. This is reminiscent of the results of Iwata's (1995) study of English ObjExp verbs, which shows that these verbs are standard causatives, but that furthermore a difference can be observed with respect to the agentivity properties of their subjects. Iwata argues that this is to be traced back to the "reduced saliency of the causative process" in ObjExp verbs. The German data point in the same direction: some German ObjExp verbs can have agentive readings, most clearly, or sometimes exclusively, if they are disambiguated by modifiers like *deliberately/on purpose*, but the subjects of the agentive readings are not 'real' agents but only "superimposed Agent[s]" in Iwata's (1995: 107) terms, which behave differently from 'true' agents, as our diagnostics have shown as well. This difference can be derived from the fact that ObjExp verbs can conceptually be considered to fall in-between externally caused and internally caused change-of-state verbs (as will be argued in detail in 5.1) because they contain both reference to an external process causing the change of state, and an internal process, since the change of state, and the result state are internal to the experiencer. In that they differ from other causative verbs, for which both processes, the causing event and the caused event, are 'external' and happen in the physical world. The agentive subject can therefore exercise full control over the event from its initiation to the result state, which is not possible for causative ObjExp verbs because the result 'occurs internal' to the argument undergoing a change-of-state. Following Higginbotham (1997), Folli & Harley (2008) identify such "teleological capabilities", and the degree to which external arguments possess them as the central characteristics defining agentivity: "Agents, then, are entities which can produce particular events by themselves: they are sufficient on their own to initiate and carry out the entire event denoted by the predicate" (2008: 192). Based on that, they define the difference between agents and causers in terms of teleological capabilities: "The relevant notion

which distinguishes Agents from Causers is the subject's internal teleological capability of generating the event from start to finish – *not* animacy" (Folli & Harley 2008: 200). The causer subjects of agentive ObjExp verbs differ from agents but also from other agent subjects of physical causatives with respect to their teleological capabilities, i.e. the capacity to control the situation from the initiation to the result (state): their inherent qualities and abilities are not enough to carry out, and control the *entire* event from "start to finish" but only to initiate the process bringing about the change of state (see also Pylkkänen 2000 on that). Consequently, the agentive causer subject can only be an 'initiator' but not a 'volitional agent' in the terms used by Buscher (2013). This difference accounts for Buscher's observation with respect to the different distribution of the I- and A-adverbials like *freiwillig* 'voluntarily', and *absichtlich* 'deliberately' with ObjExp verbs, discussed in section 4.1.9. More generally, this means that, at least for German, the 'agentivity test' with adverbs like *absichtlich* 'deliberately' seems not to be a test sensitive to full agentivity but rather to be a test for intentionality, at least if agentivity is understood as a broader concept consisting of features that go beyond mere intentionality, such as e.g. control, etc. The test with *absichtlich* only diagnoses the volitional intention to initiate the causing event, or process, which leads to the result state. This is also in accordance with Folli & Harley's definition of causers: "[c]ausers (again which may be animate or inanimate) may trigger the initiation of an event, but do not exercise control over its unfolding, due to their teleological *incapability*" (2008: 200). Crucially, based on the idea that causation is a relation between two eventualities, causatives are subject to a condition, which Schäfer (2012) calls the 'resultativity restriction': they link two eventualities, a causing eventuality, and a caused (result) state[44]. The combination of the two parts is interpreted as causation. It seems that a subject of a causative verb can only be an 'agent' if it can control both subparts, i.e. if its teleological capabilities are enough to exercise control over both eventualities, as in the case of physical causatives, where the causee is usually not sentient, or inanimate in Talmy's four-way (1976, 1988) typology, and is therefore completely under the control of the causer. Accounts of ObjExp verbs which consider agentivity (differences) as the central defining property often argue that ObjExp verbs are agentive if the causer/stimulus has control over the event, however, this is never completely the case for ObjExp verbs because, as the discussion here and in Buscher (2013) has shown, it is simply impossible that the subject fully controls the mental result state, since it is internal to the sentient experiencer. The crucial defining characteristic of nonstative ObjExp verbs is that they are subject to the resultativity

[44] Folli & Harley (2007, 2008) express a similar basic idea in the requirement that the light verb v_{cause} forming causatives always has to take a small clause component.

restriction, which leads to the mental entailment with nonstative ObjExp verbs. Therefore, they are causative change-of-state verbs, and their subjects might get an agentive reading but are different from true agents of activities verbs such as agentive *ärgern*, which possess the "teleological capabilities of generating the event from start to finish" in the sense of Folli & Harley (2008). Subjects of ObjExp verbs can only initiate the causing event bringing about the change of state but do not control the whole event as opposed to agent subjects of e.g. activity verbs. Such an analysis is also in line with the results of experimental studies on German (and Norwegian) by Bott & Solstad (2014), which argue that the stimulus in ObjExp verbs is generally propositional in nature, since it alternates with *that*-clauses.

For many of the observed phenomena, event structure seems to play an important role. Therefore, event structure properties of German psych verbs need to be the subject of further examination, since agentivity cannot not explain the observed differences in the empirical behaviour, as the discussion has shown. Consequently, the event structure properties ObjExp verbs and phenomena related to it will be at the centre of the empirical analysis in the next two sections. The focus of this analysis will be especially on the pattern of alternating √PSYCH – PREFIX-√PSYCH verbs such as *ärgern* – *ver-ärgern*, *wundern* – *ver-wundern*, etc. already introduced in 3.2, since they can give interesting insights when combined with the results of the empirical analysis of *ärgern* in this section. But before that, another cross-linguistically observed pattern is put to closer scrutiny: the behaviour of change-of-state psych verbs with respect to the well-known and extensively studied causative–anticausative alternation.

4.2. The psych causative alternation

Alexiadou & Iordăchioaia (2014b) argue that eventive Greek and Romanian psych verbs alternating between an ObjExp and a SubjExp verb form represent a subcase of the general causative–inchoative/anticausative alternation (see Dowty 1979; Parsons 1990; Levin & Rappaport 1995; Piñón 2001; Reinhart 2002; Chierchia 2004; Alexidaou et al. 2006; 2015; Schäfer 2008; Koontz-Garboden 2009; etc.), and, consequently, propose an analysis of these verbs on a par with regular causative verbs. On the basis of their findings, they argue that psych verbs should not be treated as an idiosyncratic verb class because they are not as 'special' as often assumed, but "their special property is that they are usually ambiguous between several regular patterns" (Alexiadou & Iordăchioaia 2014b: 54). Their work, thus, offers a pattern of regularity, which can be used to differentiate between different psych verb forms, and further investigate the multiple ambiguities which have already been diagnosed in this study as well.

In 4.2.1, the main points of their argumentation and analysis for Greek and Romanian are summarized, before in 4.2.2 the central characteristics of the canonical causative alternation of non-psych verbs in German are briefly introduced. Finally, in 4.2.3, it will be investigated whether German alternating psych verbs can also be considered to constitute a case of the psych causative alternation, and, thus, a subcase of the regular causative alternation.

4.2.1. The psych causative alternation (Alexiadou & Iordăchioaia 2014b)

The line of reasoning behind Alexiadou & Iordăchioaia's (2014b) claim that alternating psych verbs in Greek and Romanian form a subcase of the general causative alternation consists of two pieces of evidence: firstly, the verbal morphology in the alternation of ObjExp and SubjExp verbs is the same as in the regular causative alternation. Furthermore, in both languages the exact same preposition which introduces standard causer arguments in anticausative constructions is used to introduce the non-experiencer argument in eventive change-of-state SubjExp constructions. And, secondly, the event complexity of alternating psych verbs exactly mirrors the situation in the regular causative alternation. Because of these similarities, they treat the psych causative alternation to be a subpart of the general causative alternation in these languages, while they also report that English completely lacks the psych causative alternation. It is important to point out that their findings show that not all Greek and Romanian psych verbs which morphologically alternate between a SubjExp and an ObjExp verb form participate in the causative alternation. In both Greek and Romanian, the regular causative alternation is marked morphologically in the same way as alternating psych verbs: while Greek usually uses non-active (NAct) morphology (143), in Romanian anticausatives as well as the SubjExp forms are marked with reflexive morphology (144). Besides, the canonical preposition introducing standard causer arguments, *me* 'with' in Greek, and *de la* 'from' in Romanian, licenses the non-experiencer argument in SubjExp verbs in both languages as (143d/144d) illustrates.

(143) a. O Janis enohlise ti Maria *epitides/me* ena bastuni. (Greek)
the John annoyed the Maria intentionally/with a stick
'John annoyed Maria intentionally/with a stick.'

b. *O Janis/to pehnidi* enohlise ti Maria se deka lepta.
the John/ the game annoyed the Maria in ten minutes
'John/the game annoyed Maria in ten minutes.'

c. *I Maria/to kurema tis Marias* ton enohlise to Jani ja mia ora.
the Maria/the haircur the Mary.GEN him annoyed the John.ACC for an hour
'Maria/Maria's haircut annoyed John for an hour.'

d. O Janis *enholithike* (*epitides/*me ena bastuni) me to pehinidi.
the John annoyed.NAct intentionally/with a stick with the game
'John got annoyed with the game.'

(144) a. Ion a enervat-o pe Maria *dinadins/cu* un băț (Romanian)
John has annoyed-her ACC Mary intentionally/with a stick
'John annoyed Mary intentionally/with a stick.'

b. *Ion/jocul* a enervat-o pe Maria în cinci minute.
John/game.the has annoyed-her ACC Mary in five minutes
'John/The game annoyed Mary in five minutes.'

c. *Ion/Freza lui Ion* a enervat-o pe Maria timp de o oră.
John/haircut the.gen John has annoyed-her ACC Mary time of an hour
'John/John's haircut annoyed Mary for an hour.'

d. Maria *s-a enervat* (pe Ion) de la joc (*dinadins/*cu un băț).
Mary Rf-has annoyed (at John) of the game (intentionally/with a stick)
'Mary got annoyed (at John) from the game.'

(Alexiadou & Iordăchioaia (2014b): 54, (3), (4))

While a number of Greek and Romanian psych verbs mark the alternation morphologically in this way, not all of them constitute a case of the psych causative alternation. The aspectual properties of the alternating psych verbs are central: only those which are ambiguous between an eventive and a stative reading participate in the causative alternation. In both languages, there are also stative verbs which alternate between a SubjExp and an ObjExp form but do not form causative–anticausative pairs. In other words, the event structure properties are crucial in conditioning whether a verb occurs in the causative alternation or not.

Since both Greek and Romanian lack the progressive form, Alexiadou & Iordăchioaia (2014b) show on the basis of other standard event structure tests like the interpretation of *in-/for*-adverbials, compatibility with locative, and manner event modifiers as well as the possibility to form the subject of predicates like *take place* or *happen* that many of the agentive psych verbs are ambiguous between an eventive reading and a stative reading. With *for*-adverbials, these verbs usually display an ambiguity between an activity and a state. Agentive constructions receive both an atelic activity and a telic event reading as their compatibility with both *for*- and *in*-adverbials shows. The non-agentive (inanimate) subject is unambiguous and receives a stative reading.

The SubjExp verb forms show less ambiguity in general than the ObjExp verbs: firstly, SubjExp verbs lack an agentive reading. And, secondly, the event structure diagnostics reveal that only a few SubjExp verbs can be ambiguous in Romanian, while SubjExp verbs in Greek are either exclusively eventive or exclusively stative. Morphological marking gives a crucial insight here.

The choice of preposition disambiguates the SubjExp verb forms: *de la* 'from' in Romanian, and *me* 'with' in Greek introduces a non-agentive causer and, thus, imposes a change-of-state eventive reading, which is different from the stative reading, in which the non-experiencer argument is an object of emotion, and, therefore, introduced by a different preposition. Furthermore, their compatibility with *in*-adverbials clearly shows that the SubjExp verb forms with the causer preposition are telic, and eventive involving a change of state.

These tests also reveal the existence of two other subclasses of alternating psych verbs: one group of verbs which cannot receive a stative reading neither in the ObjExp nor the SubjExp verb form, but only allow an eventive iterative reading when modified by *for*-adverbials. And, secondly, a subclass of alternating psych verbs which are exclusively stative in both languages as their incompatibility in eventive contexts and diagnostics as well as their infelicity with the causer prepositions *de la* (Romanian)/*me* (Greek) shows.

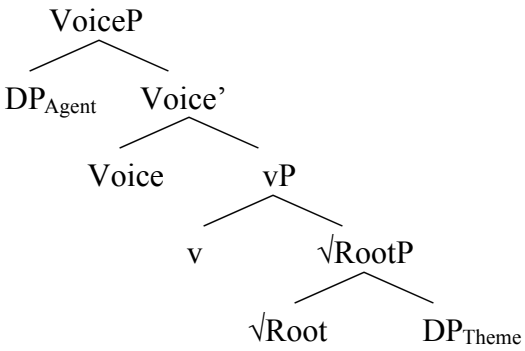
To summarize, what turned out to be the crucial is the existence of a change-of-state eventive reading in the alternating SubjExp and ObjExp verb forms. Furthermore, the fact that the non-experiencer argument in such change-of-state readings of SubjExp verbs is introduced by the preposition introducing canonical causer arguments in anticausatives, while the non-experiencer argument in stative readings is introduced by a different preposition, *de* 'of' in Romanian, and *ja* 'about' in Greek.

On the basis of their findings that, firstly, alternating psych verbs show the same morphological marking as alternating regular causative-anticausative verbs, secondly, the non-experiencer argument in SubjExp verbs is introduced by the preposition introducing canonical causer arguments, and, thirdly, the fact that these alternating psych verb pairs show the same aspectual properties as verbs undergoing the causative-anticausative alternation, Alexiadou & Iordăchioaia (2014b) suggest to treat the eventive SubjExp-ObjExp verb alternation as a subcase of the general causative-anticausative alternation. Consequently, they analyse the ObjExp verb forms on a par with standard change-of-state causatives (see 145a), and the SubjExp verb forms like standard anticausatives (see 145b). Following work like Chierchia (2004), and Alexiadou et al. (2006, 2015), they assume that the anticausative form consists of a causative event as well. Evidence for that comes from the fact that anticausatives can license causative arguments like *by itself* as well as the use of the preposition typically introducing causers in the respective language, like *from* in English, *durch* in German, or *me* in Greek. Alexiadou & Iordăchioaia's (2014b) analysis further follows a Distributed Morphology approach along the lines of Marantz (2005), and Alexiadou et al. (2006, 2015), which considers the causative alternation to be a Voice alternation: while the causative and anticausative form

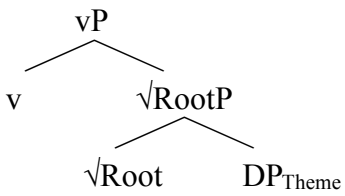
share the basic structure of causative event plus result state, only the causative form projects a Voice head which licenses the external argument (following Kratzer 1996) as illustrated in (145a). In fact, what the causative and the anticausative structure share is the combination of a v head, which introduces an event, and a (result) state introduced by the Root, which leads to causative semantics in this combination, i.e. no labelled v heads such as v_{CAUSE} are present in the syntax under such an approach (see Embick 2004; Schäfer 2008). Consequently, in a combination like in (145), v introduces a causing event, and √RootP represents the caused result state. Following von Stechow's (1995, 1996) argumentation that there is no evidence for syntactic BECOME-heads in the syntax, since elements like the adverb *again* can only modify the cause event, and the result state (see 147-150) but not the BECOME event, the structures do not contain BECOME-heads either.

(145) Causative–anticausative alternation (Alexiadou & Iordăchioaia 2014b: 65, (36))

a. Causative change-of-state verb



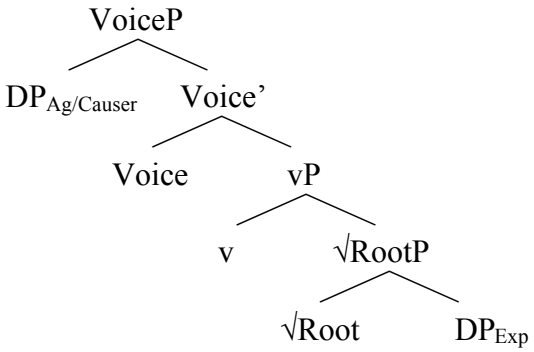
b. Anticausative change-of-state verb



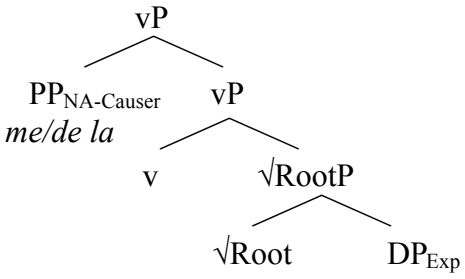
The analysis of the psych causative alternation follows on in parallel the basis of that as depicted in (146):

(146) Psych causative alternation (Alexiadou & Iordăchioaia 2014b: 70, (56))

a. Change-of-state alternating ObjExp verbs



b. Change-of state-alternating SubjExp verbs



Von Stechow's (1995, 1996) correlation of the syntactic representation of the subeventualites with the repetitive and restitutive readings (as described in 147-150), are used as a further diagnostic by Alexiadou & Iordăchioaia (2014b) to show that alternating ObjExp verbs indeed have a complex event structure consisting of a change of state: alternating psych verbs in Greek and Romanian license both repetitive and restitutive readings of *again* under appropriate scenarios, just as canonical change-of-state verbs do.

(147) John opened the door again.

(148) John did something again and as a result the door opened.
(***again*** [John CAUSE [BECOME [*the door* <OPEN>]]]) (repetitive)

(149) #John did something and as a result again the door opened.
[John CAUSE (***again*** [BECOME [*the door* <OPEN>]]])

(150) John did something and as a result the door is open again.
[John CAUSE [BECOME (***again*** [*the door* <OPEN>]]]) (restitutive)
(Alexiadou & Iordăchioaia 2014b: 65, (37))

Moreover, the fact that *for*-adverbials can yield a result state-related interpretation, which measures the duration of the result state of such eventualities (see 4.3.2 for more details), gives further evidence for the complex bi-eventive structure of these alternating psych verbs.

To sum up, on the basis of a number of similarities between verbs of the canonical causative–anticausative alternation, and eventive alternating psych verbs in Greek and Romanian, both in their morphological form as well as their event structure properties, Alexiadou & Iordăchioaia (2014b) argue to take the latter as a subcase of the former, and analyse eventive psych verbs on a par with other eventive change-of-state causatives. These alternating psych verbs are morphologically marked in the same way as other causative verbs, license the canonical causer preposition in both languages, and have a complex event structure involving a change of state, and a result state, which can be modified by result state related adverbials. However, crucially,

not all alternating verbs in Greek and Romanian form part of the psych causative alternation, but only those which are ambiguous in that they can have an eventive reading in addition to the stative one. Besides, there are two further subclasses of alternating verbs, which do not occur in the psych causative alternation: one which is stative-only, and one which cannot receive a stative reading neither in the ObjExp nor in the SubjExp verb form, but only allows for an eventive iterative reading when modified by *for*-adverbials.

4.2.2. The causative-anticausative alternation in German

In this section, the main characteristics of the canonical (non-psych) causative–anticausative alternation in German are briefly summarized, since they will serve as the baseline for the comparison with the alternating psych verbs in section 4.2.3 in order to evaluate whether German also displays the psych causative alternation.

In German, the verbs expressing a change of state which undergo the causative–anticausative alternation can be categorized in different groups depending on how they mark their intransitive anticausative form (see Schäfer 2008, whose terminology and observations I will follow here). The basic distinction is between two major classes of anticausatives: '(reflexively) marked anticausatives', which obligatorily mark the intransitive form with the reflexive *sich* (see 151), and morphologically 'unmarked anticausatives', which have exactly the same form for the transitive and intransitive use (see 152). Besides, there is a third class of verbs, which can but do not have to mark their anticausative forms with *sich*. German also shows examples of anticausative verbs which fall into the category of what Haspelmath (1993) labels 'suppletive alternation', and 'equipollent alternation', the latter of which involves stem alternation (ablaut) in the anticausative forms as in (153), while in the former two unrelated verbal Roots are used to express the causative alternation, like e.g. in English *kill – die*, or the German equivalent *töten – sterben*.

(151) a. Der Mann öffnete die Tür. (causative)
the man opened the door
'The man opened the door.'

b. Die Tür öffnete sich. ('marked anticausative')
the door opened REFL
'The door opened.'

c. Die Tür hat sich plötzlich geöffnet.
the door has REFL suddenly opened
'The door has suddenly opened.'

(152) a. Der Mann zerbricht/zerbrach die Vase. (causative)
the man breaks/ broke the vase
'The man breaks/broke the vase.'

b. Die Vase zerbricht/ zerbrach. ('unmarked anticausative')
the vase breaks/ broke
'The vase breaks/broke.'

c. Die Vase ist plötzlich zerbrochen.
the vase is suddenly broken
'The vase is suddenly broken.'

(153) a. Das U-Boot versenkt das Schiff. (causative)
the submarine sinks the ship
'The submarine sinks the ship.'

b. Das Schiff versinkt. ('equipollent alternation')
the ship sinks
'The ship sinks.'

c. Das Schiff ist versunken.
the ship is sunk
'The ship has/is sunk.'

'Marked anticausatives' form their perfect tense with the default perfect auxiliary *haben* 'have' as (151c) shows, while 'unmarked anticausatives' (see 152c) use the auxiliary *sein* 'be', which is typical for unaccusative verbs in German (see Haider 1985, 1993; Abraham 1986, 1989). However, Schäfer (2008) reports that the presence or absence of *sich* in the different groups of verbs has no semantic effects: *sich* does neither induce nor reflect telicity in the anticausative form. His examination of the aspectual properties of 'marked' and 'unmarked anticausatives' on the basis of standard event structure tests reveals that some of the anticausative verbs in both classes are necessarily telic, while others behave like 'degree achievements' in that they can have telic and atelic readings (see e.g. Kearns 2003, 2007). In this respect, German anticausatives show a behaviour similar in many ways to their counterparts in languages like Greek, Italian, or French (see Alexiadou et al. 2015: 82-95 for a detailed discussion).

German anticausatives license causers and causing events if they are introduced by the preposition *durch* 'through', which is the canonical preposition introducing causers, natural forces, and causing events in German. In the passive, causers can also be introduced by *von* 'by'. German anticausatives neither license agents nor instruments (see Alexiadou et al. 2015: 32-33). The different morphological marking of anticausatives does not affect the distribution of the causer-PP as (154) illustrates.

(154) a. Die Vase zerbrach durch ein Erdbeben. (‘unmarked anticausative’)
the vase broke through an earthquake
‘The vase broke from an earthquake.’

b. Die Tür öffnete sich durch einen Windstoß. (‘marked anticausative’)
the door opened REFL through a blast.of.wind
‘The door opened from a blast of wind.’

(Alexiadou et al. 2015: 33, (46))

Both ‘marked’ and ‘unmarked anticausatives’ in German also license *von selbst,* the counterpart of English *by-itself*, with the meaning of ‘no particular cause’, which is a test sensitive to causation/responsibility as Alexiadou et al. (2015: 21-22) argue.

(155) a. Die Vase zerbrach von selbst.
The vase broke by self
‘The vase broke by itself.’

b. Die Tür öffnete sich von selbst.
the door opened REFL by self
‘The door opened by itself.’

(Alexiadou et al. 2015: 34, (48))

4.2.3. The psych causative alternation in German

Even a superficial first look at the alternating psych verb forms in German reveals that they exhibit the same morphological marking as the causative–anticausative alternation. Both major patterns reported for the causative alternation can also be found with alternating psych verbs: the vast majority of verbs show the same pattern as ‘(reflexively) marked anticausatives’ (see 156), i.e. obligatory marking of the intransitive/SubjExp form with a reflexive *sich*. The verb *erschrecken* ‘frighten’ follows the pattern of ‘unmarked anticausatives’ in the present tense, however, in combination with a kind of ‘equipollent alternation’ with respect to the past tense form, since the past tense form of the SubjExp verb shows a stem alternation (ablaut) (see 157b), which is not present in the past tense form of the ObjExp form (see 157a). Furthermore, *erschrecken* also forms the perfect tense with the auxiliary *sein* ‘be’ in accordance with the pattern described for ‘unmarked anticausatives’, while the other alternating reflexively marked anticausatives form the perfect tense with *haben* ‘have’. In fact, the situation is even more complicated, since internet searches (see Bechmann 2013: 296, fn. 535) as well as corpus searches reveal uses of *erschrecken* which pattern like ‘(reflexively) marked anticausatives’ as in (159c) besides combinations of stem alternation/ablaut plus reflexive marking like in (159a).

(156) a. Das Lied/ Die Mutter beruhigte das Kind.
the song/ the mother calmed the child

b. Das Kind beruhigte sich.
the child calmed REFL
'The child calmed down.'

c. Das Kind hat sich beruhigt.
the child has REFL calmed

(157) a. Das laute Geräusch/Peter erschreckt die Kinder.
the loud noise/ Peter frightens the children

b. Die Kinder erschrecken.
the children frighten
'The children get frightened.'

c. Die Kinder sind erschrocken.
the children are frightened
'The children got frightened.'

(158) a. Das laute Geräusch/Peter erschreckte die Kinder.
the loud noise/ Peter frightened the children

b. Die Kinder erschraken.
the children frightened
'The children got frightened.'

(159) a. Der Fahrer (30) erschrak sich so, dass er gegen ein Baum fuhr.
the driver frightened REFL so that he against a tree drove
'The driver got so frightened that he crashed into a tree.' (C: HMP10/DEZ.02920)

b. Dirk Westermann erschrak sich ordentlich am Sonntagmorgen.
Dirk Westermann frightened REFL properly on Sunday.morning
'Dirk Westermann got quite frightened on Sunday morning.' (C: NKU14/JUL.00794)

c. Pony erschreckte sich und ging durch. (C: BRZ11/JUN.03255)
pony frightened REFL and went through
'Pony got frightened, and bolted.'

d. Eine Frau erschreckte sich so sehr, dass sie stürzte. (C: HAZ13/AUG.01637)
a woman frightened REFL so much that she fell
'A woman got so frightened that she fell.'

Since the existence of the different forms of *erschrecken* is a question in its own right, I must leave the exact analysis, and its implications aside at this point. The most important observation for the purpose of this study is that alternating psych verbs show exactly the same morphological patterns as verbs undergoing the causative alternation in German. Even the puzzling patterns of *erschrecken* 'frighten' all fall within the patterns described for the causative alternation: they either exploit several different patterns, or combine some of these. Apart from

this verb, most, if not all, other alternating psych verbs show the pattern known from '(reflexively) marked anticausatives' see (160).

(160) Alternating psych verbs in German

ObjExp verb	***sich* SubjExp verb**
ärgern 'annoy/anger'	*sich ärgern* 'be annoyed'
amüsieren 'amuse'	*sich amüsieren* 'amuse onself'
ängstigen 'alarm/frighten'	*sich ängstigen* 'be alarmed/afraid'
aufregen 'annoy/vex'	*sich aufregen* 'fuss'
beruhigen 'calm'	*sich beruhigen* 'calm down'
beunruhigen 'worry/alarm'	*sich beunruhigen* 'worry'
begeistern 'thrill/inspire'	*sich begeistern* 'enthuse about'
erheitern 'exhilarate'	*sich erheitern* 'be exhilarated'
ekeln 'disgust'	*sich ekeln* 'be disgusted'
empören 'outrage'	*sich empören* 'bristle'
erfreuen 'please/gladden'	*sich erfreuen* '(take) delight in'
freuen 'please'	*sich freuen* 'be pleased/rejoice'
grämen 'bother'	*sich grämen* 'fret/sorrow/grieve'
interessieren 'interest'	*sich interessieren* 'be interested'
langweilen 'bore'	*sich langweilen* 'be bored'
beschämen/ *schämen* 'shame'	*sich schämen* 'be ashamed'
stören 'bother/interrupt'	*sich stören* 'be bothered by'
wundern 'puzzle'	*sich wundern* 'be puzzled'
…	…

Standard tests (see Haider 1985; Schäfer 2008) show clearly that the *sich* reflexives in these forms are not argument reflexives like in naturally reflexive verbs (see 163) but behave like *sich* forms in anticausatives (see 162), since they, firstly, cannot be coordinated (see 161b), secondly, can neither be focussed nor occur in the scope of a focus sensitive operator/contrastive negation (see 161c), and, thirdly, cannot be questioned or fronted (see 161d-e) (see Steinbach 2002: 139-168 on these tests).

(161) a. Peter beruhigte/ erschreckte sich.
Peter calmed/ frightened REFL
'Peter calmed down.'

b. *Peter beruhigte/erschreckte sich und Anna.
Peter calmed/ frightened REFL and Anna

c. *Peter beruhigte/erschreckte nur sich.
Peter calmed/ frightened FOC.PRTL REFL

d. *Sich hat Peter gestern beruhigt/ erschreckt.
REFL has Peter yesterday calmed/ frightened

e. Wen beruhigte/ erschreckte Peter? *Sich!
Whom clamed/ frightened Peter? REFL

(162) a. Die Tür öffnete sich. ('marked anticausative')
the door opened REFL
'The door opened.'

b. *Die Tür öffnete sich und das Tor.
the door opened REFL and the door

c. *Die Tür öffnete nur sich.
the door opened FOC.PRTL REFL

d. *Sich hat die Tür gestern geöffnet.
REFL has the door yesterday opened

e. *Wen/ Was hat die Tür geöffnet? Sich!
whom/what has the door opened REFL

(163) a. Peter wusch sich. (naturally reflexive)
Peter washed REFL
'Peter washed himself.'

b. Peter wusch sich und Anna.
Peter washed REFL and Anna

c. Peter wusch nur sich.
Peter washed FOC.PRTL REFL

d. Sich hat Peter gestern gewaschen.
REFL has Peter yesterday washed

e. Wen wusch Peter? Sich!
Whom wasched Peter? REFL

Given these obvious morphological similarities, Zifonun (2002: 97-99) explicitly considers the idea that the alternating psych forms could constitute a subcase of the causative alternation in German but ultimately rejects it because psych verbs do not form passives contrary to verbs undergoing the canonical causative alternation in German, as she points out. However, once again, the aspectual properties of the respective alternating psych verbs turn out to be crucial. While Zifonun is right with respect to the majority of the alternating psych verb forms, which will be dealt with in the next section, (164-166) show that some of the alternating psych verbs do form verbal passives, and, consequently, the objection does not hold; Zifonun (2002) could

consider them to be a subcase of the causative alternation, which they indeed are, as will be shown on the basis of Alexiadou & Iordăchioaia's (2014b) tests and analyses in this section.

(164) a. Die Mutter beruhigte das Kind.
the.NOM mother calmed the.ACC child
'The mother calmed the child.'

b. Das Kind wurde von der Mutter beruhigt.
the.NOM child became by the mother calmed
'The child was calmed by the mother.'

(165) a. Der Mann erschreckte die Kinder.
the.NOM man frightened the.ACC children
'The man frightened the children (deliberately).'

b. Die Kinder wurden von dem Mann erschreckt.
the.NOM children became by the man frightened
'The children were frightened by the man.'

(166) a. Der Gastgeber erheiterte/ amüsierte die Gäste.
the.NOM host exhilarated/ amused the.ACC guests
'The host exhilarated/amused the guests.'

b. Die Gäste wurden von dem/durch den Gastgeber erheitert/ amüsiert.
the.NOM guests became by the/ through the host exhilarated/ amused
'The guests were exhilarated/amused by the host.'

One of Alexiadou & Iordăchioaia's (2014b) central observations is that not all alternating psych verbs in Greek and Romanian form part of the psych causative alternation but that aspectual properties are crucial: only those psych verbs which can have an eventive reading involving a change of state undergo the alternation. As the observations at the end of section 4.1 on agentivity have already indicated, event structure properties seem to be of crucial importance in German as well. It will be shown that German also has verbs which undergo the psych causative alternation, yet, these verbs differ slightly with respect to their aspectual properties from the verbs undergoing the alternation in Greek and Romanian. The basic and fundamental division of the alternating forms, however, is the same: alternating psych verbs can be separated into two groups: eventive change-of-state verbs, which undergo the causative alternation, and non-eventive psych verbs, which constitute the majority of the alternating forms in German, and do not participate in the psych causative alternation. The latter will be treated in detail in the next section.

In a first step, the aspectual properties of the alternating psych verbs are to be clarified. Change-of-state events are always telic, while activities and states are atelic. Since (Standard) German

lacks the progressive[45], the standard test of aspectual modification by *in-*/*for*-adverbials will be used to distinguish between telic and atelic eventualities. Furthermore, atelic eventualities (i.e. states and activities) will be disambiguated on the basis of manner and locative event modifiers, as well as the test of anaphoric reference with *geschehen/passieren* 'happen' (see Maienborn 2003; Rothmayr 2009), since only eventive atelic activities license them but states do not.

As (167) shows, *for*-adverbials freely modify atelic eventualities, while *in*-adverbials freely modify telic eventualities (168) but not atelic eventualities (under the relevant reading) (see Lehmann 1992 on these tests for German). Besides the relevant readings for this diagnostic, *for*-adverbials can be (marginally) acceptable in combination with telic predicates triggering coercion and yielding iterative readings, while *in*-adverbials can be marginally acceptable with atelic eventualities in a meaning roughly equivalent to '*after* X time' the eventuality started to hold. Since these readings are irrelevant for the test here, they are marked (*).

(167) a. Peter hat jahrelang ein Haus besessen.
Peter has years.long a house owned
'Peter owned a house for years.'

b. Anna hat stundenlang gespielt.
Anna has hours.long played
'Anna played for hours.'

c. (*)Peter hat stundenlang das Gedicht geschrieben.
Peter has hours.long the poem written
'Peter has written the poem for hours.'

d. *Peter hat den Schlüssel stundenlang gefunden.
Peter has the key hours.long found
'Peter has found the keys for hours.'

(168) a. (*)Peter hat in drei Stunden ein Haus besessen.
Peter has in three hours a house owned
'Peter has owned a house in three hours.'

b. *Anna hat in drei Stunden gespielt.
Anna has in three hours played
'Anna has played in three hours.'

c. Peter hat in drei Stunden das Gedicht geschrieben.
Peter has in three hours the poem written
'Peter has written the poem in three hours.'

[45] According to the standard view, only a (colloquial) dialectal version of German spoken in the Rhine valley has a kind of regular progressive construction *am* V *sein* (lit.: at.the V be), the so-called *Rheinische Verlaufsform*, which can partly also be found in the standard variety for some verbs (see Zifonun et al. 1997: 1877-1880).

d. ?Peter hat in zwei Minuten den Schlüssel gefunden.
Peter has in two minutes the key found
'Peter has found the keys in two minutes.'

Furthermore, manner (like e.g. *quickly*), and locative (like e.g. *in the park*) event modifiers will be used to disambiguate atelic activities from atelic states, since they are only compatible with the former but not the latter. Finally, Maienborn's (2003) test of anaphoric reference with *geschehen/passieren* 'happen/take place' is applied, since only events but not states can be picked up by these predicates. Since telic eventualities are always eventive, they are compatible with all these diagnostics.

(169) a. *Peter hat schnell/ im Park ein Haus besessen. Das geschah gestern.
Peter has quickly/ in.the park a house owned. This happened yesterday

b. Anna hat schnell/ im Park gespielt. Das geschah gestern.
Anna has quickly/ in.the park played. This happened yesterda.

c. Peter hat schnell/ im Park ein Gedicht geschrieben. Das geschah gestern.
Peter has quickly/ in.the park a poem written This happened yesterday

d. Peter hat schnell/ im Park den Schlüssel gefunden.
Peter has quickly/ in.the park the key found

Applying these tests to the alternating psych verbs shows that most of the alternating ObjExp verbs in German are not telic, even with animate, and, thus, potentially agentive subjects, as their incompatibility with *in*-adverbials reveals.

(170) a. *Peter ärgerte Maria in einer Minute.
Peter annoyed Maria in a minute

b. *Anna interessierte Paul in zwei Sekunden.
Anna interested Paul in two seconds

c. *Peter freute Anna in einer Minute.
Peter delighted Anna in a minute

d. *Simon wunderte Maria in wenigen Sekunden.
Simon puzzled Maria in a.few seconds

The alternating ObjExp verbs which are incompatible with telic time span modification fall into two groups: most of the verbs are incompatible with manner and locative event modifiers (see 171b-c), while verbs like *ärgern* 'annoy', *stören* 'distrub', etc. are different as the extensive

discussion in section 4.1 has shown, since they can have an atelic activity reading – but, crucially, without having a telic eventive reading with an animate subject.

(171) a. Paul ärgerte Maria stundenlang mit einem Stock/im Park. Das geschah
Paul annoyed Maria hours.long with a stick in.the park this happened
gestern.
yesterday
'Paul was annoying Maria for hours with a stick/in the park.'

b. Paul wunderte Maria stundenlang (*im Park). *Das geschah gestern.
Paul puzzled Maria hours.long in.the park this happened yesterday

c. Paul ekelte Maria stundenlang (*im Park). *Das geschah gestern.
Paul disgusted Maria hours.long in.the park this happened yesterday

Some alternating verb forms, however, can have a telic change-of-state reading. These telic agentive forms are ambiguous between an atelic activity reading and a telic event reading with animate subjects (see 172). With respect to that, they pattern like the alternating ObjExp verbs in Greek and Romanian. However, contrary, to their Greek and Romanian counterparts, they seem not to be ambiguous between an eventive and a stative reading with an inanimate subject. Inanimate subjects yield telic readings only in German as (172c-d) shows. Only the verb *beunruhigen* 'worry/alarm' can receive a stative reading with an inanimate subject.

(172) a. Die Mutter hat das Kind in einer Minute beruhigt.
the.NOM mother has the.ACC child in a minute calmed
'The mother calmed the child in a minute.'

b. Die Mutter hat das Kind stundenlang beruhigt.
the.NOM mother has the.ACC child hours.long calmed
'The mother was calming the child for hours.'

c. Das Lied hat das Kind in einer Minute beruhigt.
the.NOM song has the.ACC child in a minute calmed
'The song calmed the child in a minute.'

d. */?? Das Lied hat das Kind stundenlang beruhigt.
the.NOM song has the.ACC child hours.long calmed

(173) a. Der Lehrer hat uns in wenigen Minuten beunruhigt.
the.NOM teacher has 1PL.ACC in a.few minutes worried/disturbed

b. Der Lehrer hat uns stundenlang beunruhigt.
the.NOM teacher has 1PL.ACC hours.long worried/disturbed

c. Diese Fragen haben uns in wenigen Minuten beunruhigt.
these.NOM questions have 1PL.ACC in a.few minutes worried/disturbed

d. Diese Fragen haben uns stundenlang beunruhigt.
these.NOM questions have 1PL.ACC hours.long worried/disturbed

The clearest textbook example of a verb undergoing the psych causative alternation is *beruhigen* 'calm', while judgements for the verbs *beunruhigen* 'worry/disturb'*, erheitern* 'exhilarate', *amüsieren* 'amuse' show greater variation. A further clear case of a verb undergoing the psych causative alternation is *erschrecken* 'frighten' (see Haiden 2005), even though it patterns differently because it describes a punctual achievement-like eventuality (see also Fleischhauer 2016: 275; Härtl 2001a). With an agentive subject, this verb is ambiguous between a telic punctual change-of-state event, and an atelic 'iterative activity', or semelfactive-like reading, when used with *for*-adverbials (see 174). Modification of the telic reading by time span *in*-adverbials seems to be rather bad because of the fact that the change-of-state event occurs instantaneously with no, or very little temporal duration, as in an achievement in the sense of Piñón (1997), or Ramchand (2008). With respect to that, *erschrecken* 'frighten/get frightened' patterns like other typical examples of the canonical causative alternation in German (see Schäfer 2008), such as e.g. *zerbrechen* 'break'.

(174) a. Paul erschreckte stundenlang (die) Kinder.
Paul frightened hours.long the children
'Paul was frightening children for hours.'

b. ??Paul erschreckte die Kinder in wenigen Sekunden.
Paul frightened the children in a.few seconds

c. ??Paul zerbrach die Vase in wenigen Sekunden.
Paul broke the vase in a.few seconds

Turning to the alternating SubjExp verb forms, the picture for those verbs which have a telic change-of-state reading is like in Greek: their SubjExp verb forms are exclusively eventive. The situation with respect to the other alternating SubjExp verb forms of verbs whose ObjExp forms do not have a telic reading, is more complicated, and will be dealt with in the next section. The SubjExp forms of alternating verbs whose ObjExp verbs have a telic reading are telic events as well involving a change of state as the diagnostics in (175) show. The verb *erschrecken* 'frighten' again behaves like other anticausatives of the type *zerbrechen* 'break', since it describes a rather punctual change-of-state event. All in all, the SubjExp verb forms behave well within the empirical pattern described for canonical anticausatives in German (see the summary of Schäfer (2008) in 4.2.2).

(175) a. Er beruhigte sich in zwei Minuten.
he calmed REFL in two minutes
'He calmed down in two minutes.'

b. Er beruhigte sich im Park. Das geschah gestern.
he calmed REFL in.the park. This happened yesterday

c. Er erschrak ??in einer Sekunde.
he got.frightened in a second

d. Er erschrak im Park. Das geschah gestern.
he got.frightened in.the park. This happened yesterday.

A further clear piece of evidence that these eventive alternating psych verbs indeed form a subcase of the causative alternation is that their SubjExp verb forms introduce the non-experiencer argument, which triggers the emotion, by the same preposition which introduces canonical causers in German: *durch* 'through', as the examples in (176) demonstrate. Contrary to that, other non-eventive SubjExp verbs introduce the non-experiencer argument, which is an object of emotion in Pesetsky's (1995) terminology by a different preposition like *über* or *vor*. Thus, German SubjExp verbs also provide the second central piece of evidence in the line of reasoning of Alexiadou & Iordăchioaia (2014b). Furthermore, these SubjExp verbs also behave like anticausative alternates of verbs occurring the causative alteration in that they license *von selbst* 'by-itself' (see 177).

(176) a. Paul erschrak durch ein lautes Geräusch.
Paul frightened through a loud noise
'Paul got frightened from a loud noise.'

b. Man erheitert sich durch Musik/ durch geselligen Umgang. (books.google.de)
one exhilarates REFL through music/ through social contact
'One gets exhilarated from music/social contact.'

c. Eine Gesellschaft junger Leute […] erheitert sich durch Erzählung von
a society young.GEN people exhilarates REFL through telling of
Novellen (books.google.de)
novellas
'A group of young people got exhilarated by/from telling novellas.'

d. Anna beruhigte sich durch meine Geschichten.
Anna calmed REFL through my stories
'Anna calmed down from my stories.'

(177) a. Paul erschrak von selbst.
Paul frightened by itself

b. Anna beruhigte sich von selbst.
Anna calmed REFL by itself

To summarize, with respect to verbal morphology, and the use of the canonical causer preposition with SubjExp verbs, eventive alternating German psych verbs pattern exactly like the Greek and Romanian psych verbs, and, more importantly, exactly like the German verbs which undergo the canonical causative-anticausative alternation.

Alexiadou & Iordăchioaia's (2014b) final argument concerns event complexity: they show that alternating psych verbs pattern like verbs of the causative alternation with respect to the licencing of different readings of the adverb *again*, which is used as a test to show that these verbs have a complex event structure consisting of two sub-eventualities, a causing event and a result state, which can be both targeted by *again* (see von Stechow 1995, 1996). Furthermore, the existence of the result state is shown on the basis modification by result state adverbials. These tests yield the same results for the alternating verbs in German.

Under a scenario like the one in (178-181), both the repetitive as well as the restitutive reading of *wieder* 'again' is possible. It is important to note that the linear order of *wieder*, and the definite direct object yields different interpretations in German: if *wieder* precedes the direct object, only a repetitive interpretation is possible, while a repetitive and restitutive interpretation is possible if the direct object precedes *wieder* as (178) demonstrates (see von Stechow 1996; Dobler 2008). This is exactly what can be observed for the SubjExp *sich beruhigen* 'calm down' in (179-180).

(178) a. Clyde hat wieder seine Stiefel gesäubert. (REP/#REST)
Clyde has again his boots cleaned
'Clyde cleaned his boots again.'

b. Clyde hat seine Stiefel wieder gesäubert. (REP/REST)
'Clyde cleaned his boots again.'

(Dobler 2008: 44, (10), (11))

(179) a. Scenario: Anna war den ganzen Tag eigentlich ruhig und entspannt, doch das Gespräch mit ihrer Mutter wühlte sie völlig auf. Danach telefonierte sie noch mit ihrer Schwester Maria.
'Anna had been calm and relaxed for the whole day, yet, the conversation with her mother totally disturbed her. After that she called her sister Maria.'

b. Maria hat ihre Schwester Anna wieder beruhigt. (REP/REST)
Maria has her sister again calmed

c. Anna beruhigte sich wieder. (REP/REST)
Anna calmed REFL again

(180) a. Scenario: Anna hatte sich gestern in der Diskussion aufgeregt, aber ihre Schwester Maria konnte sie wie immer beruhigen. Heute hat sich Anna wieder so aufgeregt, aber…

'Anna got really upset yesterday in the discussion, like always, but her sister Maria could calm her down like always. Today, Anna got upset again, but…'

b. wieder beruhigte Maria ihre Schwester Anna/ Maria beruhigte wieder ihre Schwester Anna. (REP/#REST)
Again calmed Maria her sister Anna Maria clamed again her sister Anna

c. Wieder(/Erneut) beruhigte sich Anna. (REP/#REST)
again calmed REFL Anna

Moreover, event complexity of these alternating psych verb forms can further be shown by the diagnostic of result state related (RS-related) interpretation of *for*-adverbials, which measure the duration of a result state (see Dowty 1979; Kratzer 2000). The RS-related interpretation of *for*-adverbials is not available with activities and states, which can only yield the eventuality-related (E-related) interpretation of *for*-adverbials. In German, the two interpretations are clearly disambiguated by two different forms (see Piñón 1999; Engelberg 2000b). RS-related interpretations are expressed by the PP '*für* X time', while E-related interpretations are expressed by 'X time *lang'* as (181) demonstrates.

(181) a. Manuela ist <u>für zwanzig Minuten</u> in das Wasser gesprungen. (RS-related)
Manuela is for twenty minutes into the water jumped
'Manuela jumped into the water for twenty minutes.'

b. Manuela ist <u>zwanzig Minuten lang</u> in das Wasser gesprungen. (E-related)
Manuela is twenty minutes long into the water jumped
'Manuela jumped into the water (repeatedly) for twenty minutes.'

(Piñón 1999: 421-422, (3))

Eventive alternating psych verbs allow for modification of the result state under the RS-interpretation like other change-of-state verbs:

(182) Peter/Das beruhigte uns für zwei Stunden, aber dann war alles wie zuvor.
Peter/this calmed us for two hours but then was everything like before
'Peter/This calmed us for two hours, but then everything was like before.'

To conclude, applying the diagnostics used by Alexiadou & Iordăchioaia's (2014b) to German alternating psych verb forms has shown that German **eventive** alternating psych verbs such as *(sich) beruhigen* 'calm down', *(sich) erschrecken* 'get frightened', *(sich) erheitern* 'get exhilarated', *(sich) beunruhigen* 'worry/disturb', *(sich) amüsieren* 'amuse (oneself)', *(sich)*

empören 'to get outraged at', *(sich) aufregen* 'to fuss/get upset'[46], pattern like verbs which undergo the canonical causative–anticausative alternation as well, and should thus be considered to constitute a subcase of the causative alternation. Two pieces of evidence are crucial for the argumentation: firstly, the alternating psych verbs show the exactly same patterns of morphological marking as verbs undergoing the causative–anticausative alternation. Besides, the SubjExp verbs introduce their non-experiencer argument by the same preposition *durch* which introduces causer arguments in anticausatives in German. Secondly, these alternating psych verbs show the same aspectual properties as verbs in the causative–anticausative alternation: their complex event structure consists of a causing event and a result state. Crucial is, however, to highlight that only a limited number of alternating verbs participates in the psych causative alternation depending on their aspectual properties: only those verbs which can have a telic change-of-state reading undergo the alternation.

4.2.4. Other alternating SubjExp verbs

The majority of alternating psych verbs in German, however, cannot have a telic change-of-state reading as the tests in the previous section have shown. While most of the ObjExp verbs of these alternating pairs are stative (see section 4.3), the status of the SubjExp verb forms is far from clear, since they exhibit a puzzling amount of variation. What they have in common is that they can be disambiguated from the eventive SubjExp verb forms by the fact that they introduce the non-experiencer argument by a preposition such as *über,* or *vor*, which is different from the canonical German causer preposition *durch*. Consequently, the second argument of these SubjExp verbs is not a causer but an object of emotion following the terminology established by Pesetsky (1995). Apart from that, however, a complex picture emerges, not least because many SubjExp verbs are also ambiguous between two different readings.

[46] The classification of individual verbs like e.g. the latter two is not clear beyond doubt. On the one hand, this is because the empirical properties are less straightforward for some verbs than they are for textbook examples such as *sich beruhigen* 'calm', or *erschrecken* 'get frightened'. A possible alternative analysis for the other cases could be along the lines suggested by Marín & McNally (2011), who analyse Spanish reflexive *se* SubjExp verbs as either 'inchoative states', or punctual achievement verbs (following Piñón 1997). On the other hand, such an analysis, however, raises the nontrivial question of whether, and in which way such 'punctual achievement verbs' are different from other achievement(-like) verbs occurring in the causative-anticausative alternation, like e.g. *zerbrechen* 'break' in German, i.e. this raises the question of whether these achievement verbs are a subgroup of the eventive verbs participating in the general causative alternation or not. This complicated question needs more thorough investigation in general independent of the questions related to psych verbs. Therefore, I have to leave this question for further research at this point. In any case, these achievement verbs differ from the *sich* alternates of stative √PSYCH verbs as will be shown in the next section 4.2.4. Consequently, the general distinction of *sich* SubjExp verb forms depending on whether these contain a change-of-state/inchoativity holds independently of answer to this question (see 5.1.2–5.1.5 for further discussion of related issues).

A first important distinction has to be made between a number of SubjExp verb forms, which are ambiguous between a 'true' psych verb reading in the sense of expressing a certain emotion, or psychological state, and a reading which might be labelled 'verb of emotional communication or utterance'. Under this second reading the verbs do not primarily express a psychological state but the action of uttering something, or behaving in a way observable to others while being in a certain emotional state. Under such a reading the verbs can be used in place of verbs of utterance like *say, comment, state*, etc. as (183) shows.

(183) a. "Musste das wirklich sein?", ärgerte sich Anna.
Must.PAST that really be annoyed REFL Anna
'"Was this really necessary?" Anna said annoyed.'

b. TV-Experte Matthias Sammer wundert sich: "Ist das wirklich eine klare Fehlent-
TV-pundit Matthias Sammer puzzles REFL "is this really a clear mistake
scheidung?" (Peter Dörr, Melanie Muschong, and Peter Moufarrege, bild.de)

c. "Warum sind die Züge hier immer verspätet?", wunderte sich Peter laut.
why are the trains here always late puzzled REFL Peter loudly
'"Why are the trains always late here?" Peter asked himself loudly.'

Since these readings are felicitous with manner adverbials (like *loudly, nicely*), and locative event modification (see 184-185), SubjExp verbs under these readings seem to be activities. This is also confirmed by the fact that they are compatible with atelic *for*-adverbials (see 185).

(184) a. Ein 47-Jähriger ärgerte sich in der Rigaer Straße lautstark über die Krawalle
a 47-year.old annoyed REFL in the Rigaer Street loudly about the riots
in Hamburg (morgenpost.de)
in Hamburg
'A 47-year old was angrily and loudly complaining in the Rigaer street about the riots in Hamburg.'

b. VW-Aufsichtsrat Stephan Weil ärgerte sich in den TV-
VW-supervisory.board.member Stephan Weil annoyed REFL in the TV
Nachrichten vor laufender Kamera darüber. (blog.wiwo.de)
news in.front.of running camera there.about
'VW supervisory board member Stephan Weil was complaining about that angrily live on TV.'

c. Er ärgerte sich in der Bürgersprechstunde des Stadtrats vielmehr
he annoyed REFL in the citizens.office.hours the.GEN council.member rather
darüber, dass…
there.about that… (*Allgäuer Zeitung*, all-in.de)
'He rather complained angrily during the council member's surgery that…'

d. Ancelotti ärgerte sich in der ersten Hälfte im Bernabeu lautstark über
Ancelotti annoyed REFL in the first half in.the Bernabeu loudly about
eine misslungene Aktion von Ribéry (tz.de)
a failed action of Ribéry
'Ancelotti was shouting angrily during the first half in the Bernabeu because of a failed attempt by Ribéry.'

e. Kannst du dich bitte etwas leiser freuen!
could you REFL please something quieter rejoice
'Could you please jubilate/rejoice a bit more quietely.'

f. Peter kann sich so schön ärgern.
Peter can REFL so nicely annoy
'It's such a pleasure to watch Peter getting annoyed.'

(185) a. Er ärgerte sich stundenlang lautstark auf der Straße über die parkenden Auto.
he annoyed REFL hours.long loudly on the street about the parking cars
'He was complaining angrily and loudly about the parked cars for hours in the street'

b. Er freute sich eine Woche lang so laut, dass seine Nachbarn irgendwann die
he rejoiced REFL a week long so loudly that his neighbours sometime the
Polizei riefen.
police called
'He was rejoicing (and celebrating) so loudly for a week that, at some point, his neighbours called the police.'

These readings have to be separated from the 'true' psychological reading, which expresses an internal psychological or emotional state, and is incompatible with manner and locative event modifiers.

(186) a. Ich ärgere mich (*laut/ im Garten) über so viel Ignoranz.
I annoy REFL loudly/ in.the garden about so much ignorance
'I am angry about so much ignorance.'

b. Anna wunderte sich (*laut/ auf der Straße) über meinen Erfolg.
Anna puzzled REFL loudly/ on the street about my success
'Anna was puzzled by my success/was surprised at my success.'

While a number of alternating verbs are ambiguous between the two readings, some verbs cannot be used in the 'emotional communication verb' reading.

(187) a. * "Das ist ja toll!", interessierte/ begeisterte er sich (laut).
this is MODPRTL great interested/ enthused he REFL loudly

b. * "Das ist schrecklich", graute/ ekelte er sich.
this is horrible shuddered/ disgusted he REFL

When the activities readings of certain SubjExp verb forms are excluded, the aspectual properties of the *sich* SubjExp verbs which do not occur in the psych causative alternation become clearer: the incompatibility of verbs like *sich ärgern* 'be annoyed'*, sich freuen* 'rejoice/be happy'*,* etc. with telic time span adverbials like '*in* X time', as well as the fact that they neither allow for manner and locative adverbial modifiers nor for anaphoric reference with *geschehen*/*passieren* 'happen' but for modification by *for*-adverbials indicates that they are stative as (188) shows.

(188) a. Anna ärgerte sich monatelang/ *in einer Minute/ *im Park über diese
Anna annoys REFL months.long in a minute in.the park about these
Ungerechtigkeiten.
injustices
'Anna was angry/annoyed about this injustice for months/in a minute/ in the park.'

b. Anna freute sich tagelang/ *in einer Minute über ihr Geschenk.
Anna rejoiced REFL days.long in a minute about her present
'Anna was happy about her present for days/ in a minute.'

These aspectual differences between alternating psych verbs which participate in the psych causative alternation, and the *sich* SubjExp verb forms which do not occur in the psych causative alternation raise the question of how to analyse these forms.

Schäfer's (2007, 2008: 179–210) discussion of unaccusativity diagnostics comes to the conclusion that inherently reflexive *sich* verbs like *sich schämen* 'be ashamed'*, sich wundern* 'be puzzled/surprised', etc., i.e. exactly the group of √PSYCH verb alternates, which do not participate in the psych causative alternation, do not pattern with anticausative verbs like *sich öffnen* 'open', *zerbrechen* 'break', etc. While the anticausative reflexive *sich* alternates of verbs undergoing the causative alternation are unaccusatives, whose subjects are base-generated VP-internally as theme arguments, as Schäfer's discussion of the behaviour of these verbs with respect to unaccusativity diagnostics shows, inherently reflexive verbs pattern differently in these tests. Schäfer (2007, 2008) presents a number of arguments against an unaccusative analysis of the inherently reflexive verbs: firstly, while the subjects of many of the inherently reflexive verbs are non-intentional, some of these verbs can license agentive/intentional adverbs such as *absichtlich* 'on purpose', and seem to be agentive as they license imperatives. This holds for some of the *sich* √PSYCH verbs under their activity reading as (189) shows. Secondly, these verbs like *sich wundern* 'be puzzled/surprised' allow a weak reading of the nominative DP independent of whether it precedes or follows the reflexive pronoun (see 190) as opposed to unaccusative 'reflexively marked anticausatives', for which the relative order of theme DP

and reflexive pronoun has interpretative effects. Thirdly, these verbs can form so-called 'reflexive passives' (see also Ágel 1997), i.e. they can undergo passivization while keeping the accusative *sich* reflexive (see 191). Consequently, Schäfer concludes that inherently reflexive verbs have thematic external arguments, i.e. that the nominative DP occupies the specifier of Voice, contrary to anticausative verbs, which have the reflexive *sich* in the specifier of an expletive Voice under his analysis. Building on Kemmer's (1993) work, Schäfer (2007) argues that inherently reflexive and middle verbs are 'closely connected' in German, and both differ from reflexively marked anticausatives in that they are not unaccusatives.

(189) a. Mensch, ärgere dich nicht!
human, annoy REFL not
'Come on, don't be annoyed!'

b. Schäme dich!
be.ashamed REFL
'You ought to be ashamed of yourself!'

c. Freu' dich doch!
delight REFL PARTICLE
'Come on, be happy/rejoice!'

(190) Ich glaube dass (sich) niemand (sich) wundern würde
I think that REFL no-one REFL wonder would
'I think that no one would wonder.'
(Schäfer 2008: 208; fn. 42, (ii))

Similarly, for Oya (2010), the possibility to form 'reflexive passives' as demonstrated by the examples in (191, mostly compiled by Oya 2010) is the clearest indication that the *sich* alternates of √PSYCH verbs like *sich ärgern* 'be annoyed', *sich freuen* 'be pleased', *sich wundern* 'be surprised/puzzled', etc. are not unaccusative but fall into the group of reflexive verbs in German which only have an external argument, and thus have the same argument structure as inherently reflexive verbs.

(191) a. Und dann nach Eintritt des Todes wird sich gewundert.
and then after occurrence of.the death gets REFL wondered

b. Und dann wird sich gewundert, warum man keinen Schrittt weiter kommt.
and then gets REFL wondered why one no step further comes
(Google hits reported in Schäfer 2007: 386-387, (26), (27))

c. Jetzt wird sich nicht mehr geärgert.
now becomes REFL not more annoyed
'Now, don't be angry any more!'

(Wunderlich 1997b: 7, glosses and translation are mine, based on Oya 2010)

d. Hier wird sich nicht geschämt.
here becomes REFL not shamed
'There is no being ashamed here.'
(Wunderlich 1985: 222, glosses and translation are mine, based on Oya 2010)

e. wird sich aber noch ordentlich gegruselt
becomes REFL but still properly shruddered
'But people are still shruddering properly.'
(*taz*, 30.03.1991, quoted in Oya 2010: 237, (31d), glosses and translation are mine)

f. Da wird sich gewundert, dass…
there becomes REFL puzzled that
'There, people are surprised that…'
(Hundt 2002: 161, glosses and translation are mine, based on Oya 2010)

Oya (2010) argues that reflexive verbs in German generally split into three groups depending on whether they have (i) both an external and internal argument like grooming verbs such as *sich waschen* 'wash', (ii) an external argument only like the psych verbs, verbs of change of body posture, and inherently reflexive verbs such as *sich beeilen* 'hurry', *sich benehmen* 'behave', or (iii) an internal argument only like the reflexively marked anticausatives. In the second and third group of reflexive verbs, the *sich* reflexive is 'semantically vacuous'. While the passivization data in (191) point towards the conclusion that the *sich* √PSYCH verbs have an external argument, Oya (2010) further shows, pace Härtl (2001a), that the reflexive *sich* in √PSYCH verbs does not bear a semantic role. He presents three pieces of evidence for this: firstly, as (192a) shows the reflexive with those psych verbs cannot be interpreted as an incremental theme when the adverb *teilweise* 'partially' is added, contrary to the group of naturally reflexive verbs, in which the reflexive bears the thematic role of the internal argument (see 193a), and is, consequently, interpreted on a par with direct objects like in (193d).
Secondly, the reflexive *sich* cannot be the subject of adjectival passives (192b), and, thirdly, the reflexive cannot be targeted by a question (192c). These properties all clearly set these verbs apart from the group of naturally reflexive verbs (193), which have an external and an internal argument.

(192) a. Dieter freute/ wunderte sich teilweise.
Dieter pleased/ surprised himself partially
'Dieter was pleased/surprised partially.'

b. *Dieter ist gefreut/ gewundert.
Dieter is pleased/ surprised

c. Dieter freute/ wunderte sich. *Dieter freute/ wunderte wen?
Dieter pleased/ surprised himself Dieter pleased/ surprised whom

(Oya 2010: 236, (28))

(193) a. Dieter wusch sich teilweise.
Dieter washed REFL partially

b. Dieter ist gewaschen.
Dieter is washed

c. Dieter wusch sich. Dieter wusch wen?
Dieter washed REFL. Dieter washed whom?

d. Die Soldaten zerstörten die Stadt teilweise.
the soldiers destroyed the city partially

The crucial observation which has to be connected to the discussion by Schäfer, and Oya is that not all *sich* SubjExp verbs behave alike: only the *sich* alternates of the √PSYCH verbs show the behaviour as described by Oya (2010), and Schäfer (2008), i.e. only these verbs have an argument structure like inherently reflexive verbs with an external argument. Once again aspectual properties turn out to be central for the different behaviour: while the alternates of the √PSYCH verbs, which do not express a change of state, behave like inherently reflexive verbs, the *sich* alternates of change-of-state ObjExp verbs are anticausatives with an unaccusative structure as has been shown in the previous section, i.e. they have an internal theme argument only, while the reflexive *sich* occupies the specifier of an expletive Voice, following Schäfer's (2008) analysis of these 'reflexively marked' anticausatives. This crucial difference can be shown by the fact that the anticausative SubjExp verb forms license causer-PPs with the canonical German causer preposition *durch* like canonical anticausatives (see 194a), while the inherently reflexive SubjExp verb forms of √PSYCH verbs do not (see 194d-e).

(194) a. Die Tür öffnete sich durch den Wind.
the door opened REFL through the wind

b. Paul beruhigte sich durch das Vorlesen.
Paul clamed REFL through the reading.to

c. Anna erschrak durch das Geräusch.
Anna got.frightened through the noise

d. *Paul ärgerte sich durch deine Fragen.
Paul got/be.annoyed REFL through your questions

e. *Anna freute sich durch dein Geschenk.
Anna delighted REFL through your present

Besides, the application of Oya's (2010) tests also reveal the differences between the two groups of *sich* SubjExp verbs: the anticausative *sich* SubjExp verbs show the same behaviour as canonical anticausatives with respect to the modification by the adverb *teilweise* 'partially' (see 195): the subject, which is the raised theme argument in anticausatives (see Schäfer 2008), is interpreted in the way of an incremental theme. Consequently, the sentences can be modified by adding something like 'but not completely', which is not possible for the *sich* alternates of √PSYCH verbs, as pointed out by Oya (see 192a). This test basically diagnoses whether the entailment of a change of state is present in these verbs, or not.

(195) a. Die Tür öffnete sich teilweise (, aber nicht ganz).
the door opened REFL partially (but not completely)

b. Anna beruhigte sich teilweise (, aber nicht ganz).
Anna calmed REFL partially (but not completely)

Moreover, the difference is also clearly visible with respect to Oya's second test of adjectival passivization: *sich* anticausative SubjExp verbs behave like canonical anticausatives in this test as well: both allow for adjectival passivization as opposed to the *sich* alternates of √PSYCH verbs as (196) shows (see also 4.4.2 for more details).

(196) a. Die Tür ist geöffnet.
the door is opened

b. Anna ist beruhigt.
Anna is calmed.down

c. *Anna ist gefreut/ gewundert.
Anna is delighted/ puzzled

With respect to the third and last test both groups of *sich* SubjExp verbs behave alike: they cannot be targeted by questions. This shows that for both groups, anticausative SubjExp verbs like *sich beruhigen* 'calm', and √PSYCH alternates like *sich wundern* 'puzzle', the reflexive is not a (full) argument DP, therefore, it cannot be questioned (197a) nor fronted (197b) neither can it be coordinated (197c) nor can it be focussed or occur in the scope of a focus sensitive operator/contrastive negation (197d) (see Haider 1985; Steinbach 2002 for these tests).

(197) a. Anna wunderte/beruhigte sich. *Anna wunderte/beruhigte wen?
Anna puzzled/ calmed REFL Anna puzzled/ calmed whom

b. *Sich wunderte/beruhigte Anna.
REFL puzzled/ calmed Anna

c. *Anna wundert/ beruhigte sich und Peter.
Anna puzzled/ calmed REFL and Peter

d. *Anna wunderte/beruhigte nur sich.
Anna puzzled/ calmed FOCUSPRTL REFL

Consequently, both *sich* SubjExp verbs only have one full argument DP. However, the crucial difference is that the anticausative *sich* SubjExp verbs only have an internal argument, since they are like other anticausatives, which base-generated their sole argument as theme VP-internally, and the reflexive *sich* in the specifier of an expletive Voice (following Schäfer 2008), while the *sich* SubjExp alternates of √PSYCH verbs have an external argument only, as Oya (2010) shows, which is base-generated as a canonical external argument in the specifier of an active Voice projection, and, consequently, these verbs can form the 'reflexive passive'. The difference between the two groups of *sich* SubjExp verbs can be explained in terms of their event structure properties: while the anticausative *sich* SubjExp verb forms are change-of-state verbs with an eventive little v head and a caused result state, the *sich* alternates of √PSYCH verbs do not contain a change of state, as has been shown. They can have two readings as illustrated above, crucially, both do not contain a change of state: a stative reading, and an agentive activity reading. The two readings can be accounted for under the analysis here following Kratzer's (1996) basic distinction of Voice heads: the stative reading results from the combination of a stative v head modified by the √PSYCH with a Voice head assigning the thematic role of holder, while the activity reading results from the combination of an eventive/dynamic v head modified by the Root with a Voice head assigning the thematic role of agent, which can explain the observations about imperative formation (see 189). These two readings are analogous to the two different readings of √PSYCH ObjExp verbs of the *ärgern*-group as discussed in section 4.1: if √PSYCH ObjExp verbs can have an agentive variant, it clearly differs from other agentive ObjExp verbs since it does not contain a change of state but is an activity verb.

To sum up, *sich* SubjExp verbs are not a homogeneous group but split into different classes of verbs with distinct characteristics depending on their aspectual properties: while *sich* alternates of change-of-state verbs like *sich beruhigen* 'calm down'*, erschrecken* 'get frightened'*, sich erheitern* 'get exhilarated'*, sich amüsieren* 'amuse oneself', etc. are unaccusative anticausatives, which participate in the psych causative alternation, the *sich* SubjExp forms of stative √PSYCH like *sich ärgern* 'be annoyed', *sich wundern* 'be puzzled', *sich freuen* 'rejoice/be happy', *sich ekeln* 'be disgusted', etc. are like inherently reflexive verbs in that they only have

an external argument, but no internal argument because the *sich* is semantically vacuous. They differ from anticausatives because they do not contain a change of state, and their sole argument is an external argument introduced as a canonical external argument in Voice. These *sich* √PSYCH SubjExp verbs, like their ObjExp counterparts, can have an agentive activity reading as well. Crucially, however, both readings are neither telic nor do they contain a change of state.

4.2.5. Summary

The systematic examination of the properties of alternating psych verb forms in German has revealed that eventive change-of-state psych verbs in German participate in the 'psych causative alternation' in the way Alexiadou & Iordăchioaia (2014b) describe this alternation for Greek and Romanian. Applying their diagnostics to German has shown that analogous to Greek and Romanian, eventive German psych verbs pattern like standard change-of-state verbs which occur in the canonical causative-anticausative alternation. Psych verbs like *sich beruhigen* 'calm down', *erschrecken* 'get frightened', *sich erheitern* 'get exhilarated', etc. not only share the typical morphological marking of the causative-anticausative alternation but their intransitive *sich* SubjExp verbs forms also introduce the non-experiencer argument by the canonical German causer preposition *durch,* exactly like canonical anticausatives in German. Moreover, they share the event structure properties of the verbs occurring in the causative–anticausative alternation in German, i.e. the complex event structure consisting of a change of state and a result state. The SubjExp alternates of eventive change-of-state psych verbs generally pattern like anticausatives in that these *sich* SubjExp have an unaccusative structure with their only full argument being base-generated as a VP-internal theme argument, while the *sich* reflexive is generated in the specifier of an expletive Voice (following Schäfer's (2008) analysis for anticausatives). This clearly sets these *sich* SubjExp verbs apart from the *sich* SubjExp alternates of √PSYCH verbs, which do not participate in the psych causative alternation because they do not contain a change of state. The latter group of *sich* SubjExp verbs patterns like inherently reflexive verbs, i.e. their only argument is an external argument base-generated in the specifier of a canonical Voice projection. In parallel to their ObjExp alternates, some of the √PSYCH SubjExp verbs can have an agentive activity reading, which lacks a change of state.

4.3. Event structure properties of √PSYCH and PREFIX-√PSYCH verbs

Since the findings of the previous sections indicate that event structure plays a crucial role, a closer and more systematic examination of the event structure properties of German ObjExp verbs, especially of the interesting alternating √PSYCH and PREFIX-√PSYCH verbs, is due as a first step. Not least since the discussion in sections 2.2, and 3.3 has shown that opinions in the literature on how to classify ObjExp verbs regarding their aspectual properties cover a wide range from eventive to stative, from telic (Tenny 1994) to atelic (Filip 1996), basically all types of *Aktionsart* classes from the Vendler-Dowty classification have been claimed for ObjExp verbs cross-linguistically (see summaries in Kailuweit 2015; Willim 2016) but also specifically for German ObjExp verbs: activities (Härtl 2001a), accomplishments (Klein & Kutscher 2005), achievements (Klein & Kutscher 2005; Fleischhauer 2016), states (Rothmayr 2009). A further dividing line in the discussion about event structure properties is whether ObjExp verbs are analysed as a homogeneous group with respect to their event structure properties, or whether they are considered to form different aspectually distinct groups. With a few exceptions (see e.g. Van Voorst 1992), recent opinions in the literature following the work by Pesetsky (1995), Pylkkänen (2000), Arad (1998a, 1998b, 2002), Landau (2010), and others seem to be converging on the assessment that psych verbs do not show uniform behaviour with respect to their event structure properties. This line of research, especially Arad (1998a, 1998b), argues that different readings of the same ObjExp verb can be distinguished depending on whether or not they contain a change of state in the experiencer, and an agent, as summarized in (198).

(198) Different readings of ObjExp verbs (Arad 1998a, 1998b)
a. *agentive*: agent + change of state in the experiencer
b. *eventive*: no agent + change of state in the experiencer
c. *stative*: no agent, no change of state in the experiencer

Landau (2010) basically follows the idea that aspectual differences are crucial, and distinguishes the different readings of ObjExp verbs, however, with one important difference: for him, only the agentive reading, which is an accomplishment, contains a change of state in the experiencer, while in the nonagentive eventive reading, and the stative reading the experiencer "does not undergo a change of state in the aspectually relevant sense" (Landau 2010: 131). Nonagentive uses are therefore either eventive achievements, or states.
Other recent work (see Marín & McNally 2011; Fábregas & Marín 2015; Shimoyoshi 2015; Willim 2016) claims that psych verbs challenge the existing inventory of aspectual concepts

since (at least a subgroup of them) are inchoative but not telic, and thus constitute what Marín & McNally (2011) call 'inchoative states'. As this very brief summary of the different suggestions shows, the debate on the aspectual properties of ObjExp verbs is rather fragmented and controversial. A contributing factor to this has always been a misleading use of terminology: while many approaches equate the terms 'causative', 'change of state', and 'accomplishment', others especially in the Proto-Role tradition use 'change of state' and 'inchoative' synonymously. Approaches like Pylkkänen (2000), Arad (2002), Biały (2005), and Rothmayr (2009), however, argue for the existence of 'causative states' (see also García-Pardo 2015, 2017; Maienborn & Herdtfelder 2017; Rappaport Hovav 2018 for other work on that topic not related to psych verbs). Therefore, I will follow Pylkkänen's (2000) claim that aspect and causation have to be separated both as concepts and terminologically: while aspectual concepts describe the temporal properties of eventualities (in the sense of Bach 1986), causation describes a semantic relation between different eventualities, following the work by Lewis (1973), and Dowty (1979). Crucially, I assume that causation is not limited to events but can include states as well (see Kratzer 2000; and especially Rothmayr 2009 for a detailed theoretical discussion on that, as well as 5.2.3.2).

As the discussion of the phenomena in this chapter so far as well as the summary of the different accounts for psych verbs proposed in the literature has shown, for many issues related to the diverse behaviour of psych verbs, aspectual properties seem to play a crucial role. In order to come closer to an explanation of the diverse behaviour, and an appropriate analysis of psych verbs, the event structure properties of German ObjExp verbs are scrutinized in this section. In doing so the focus will be on the alternating √PSYCH verbs and PREFIX-√PSYCH verbs, which are formed on the basis of the same Root, and thus offer an interesting insight into the behaviour of this controversial class of verbs, which has not been explored systematically so far.

4.3.1. Temporal adverbial modification

The interpretation of aspectual modifiers like *in-/for*-adverbials is a standard test to distinguish between telic and atelic predicates (see Dowty 1979; Lehmann 1992 for German), since only telic predicates (i.e. achievements and accomplishments) can typically be modified by time-span adverbials like '*in* x time' under an 'end' reading as in (199b), while atelic predicates cannot. They might only be marginally felicitous under a different reading, in which the *in*-adverbial is roughly equivalent in meaning to *after*, i.e. measuring the time interval until an event starts to happen, or a state begins to hold. Atelic predicates, i.e. activities and states, on

the other hand, can be freely modified by durative adverbials as in (200a), while these trigger a coercion of telic predicates into an iterative reading, if they can be combined with them at all.

(199) a. (*)Peter malte stundenlang das Bild.
Peter painted hours.long the picture

b. Peter malte das Bild in einer Stunde.
Peter painted the picture in an hour

(200) a. Peter lief stundenlang.
Peter walked hours.long

b. (*)Peter lief in einer Stunde.
Peter walked in an hour

Applying this test to the group of alternating ObjExp verbs yields the first major contrast between the different groups of verbs: while the PREFIX-√PSYCH verbs can be modified by time-span *in*-adverbials (201b/d), *in*-adverbials are infelicitous with √PSYCH verbs see (201a/c). On the contrary, √PSYCH verbs can be freely modified by durative adverbials as opposed to PREFIX-√PSYCH verbs, which are only marginally felicitous under an iterative reading (see 202).

(201) a. *Das wunderte die Gäste in wenigen Sekunden.
this puzzled the guests in a.few seconds

b. Das verwunderte die Gäste in wenigen Sekunden.
this PREFIX-puzzled the guests in a.few seconds

c. *Das ärgerte die Gäste in wenigen Sekunden.
this annoyed the guests in a.few seconds

d. Das verärgerte die Gäste in wenigen Sekunden.
this PREFIX-annoyed the guests in a.few seconds

(202) a. Das wunderte ihn stundenlang/ sein Leben lang.
this puzzled him hours.long/ his life long

b. (*)Das verwunderte ihn stundenlang/ sein Leben lang
this PREFIX-puzzled him hours.long/ his life long

c. Das ärgerte ihn stundenlang/ sein Leben lang.
this annoyed him hours.long/ his life long

d. (*)Das verärgerte ihn stundenlang/ sein Leben lang.
this PREFIX-annoyed him hours.long/ his life long

Consequently, this diagnostic shows that √PSYCH verbs have to be classified as atelic predicates, i.e. they could either be activities or state, while PREFIX-√PSYCH verbs behave like telic predicates, in other words like accomplishments or achievement.

4.3.2. Modification by result state adverbials

This fundamental difference can be replicated in further tests like the interpretation of *for*-adverbials. *For*-adverbials are ambiguous between a result state related (RS-related) interpretation, modifying the result state of a complex event, and an eventuality-related (E-related) interpretation modifying the duration of the eventuality see (205). States and activities are not compatible with a RS-related interpretation as demonstrated in (203-204), since they do not contain a result state (see also Dowty 1979; Kratzer 2000). The ambiguity that arises with *for*-adverbials in English in (203) is disambiguated in German by two different forms as (204-205) shows: while '…*lang*' expresses the E-related interpretation, the PP '*für*…' expresses the RS-related interpretation (see Piñón 1999; Engelberg 2000b).

(203) a. #Rebecca swam for twenty minutes. RS-related

b. #Thomas loved Manuela for five years. RS-related

(204) a. #Rebecca ist für zwanzig Minuten geschwommen. RS-related

b. #Thomas hat Manuela für fünf Jahre geliebt. RS-related

(205) a. Manuela ist <u>für zwanzig Minuten</u> in das Wasser gesprungen. RS-related
Manuela is for twenty minutes into the water jumped
'Manuela jumped into the water for twenty minutes.'

b. Manuela ist <u>zwanzig Minuten lang</u> in das Wasser gesprungen. E-related
Manuela is twenty minutes long into the water jumped
'Manuela jumped into the water (repeatedly) for twenty minutes.'

(Piñón 1999: 421-422, (7), (8), (3))

PREFIX-√PSYCH verbs are compatible with the RS-related *for*-adverbial, which modifies their result state as (207) demonstrates, while √PSYCH verbs are not (see 206). This shows that the latter are atelic predicates, which do not contain a change of state, while the complex event structure of the former consists of a result/target state (on a par with the causative change-of-state verbs which undergo the (psych) causative alternation as discussed in the previous chapter).

(206) a. *Das hat ihn für zwanzig Minuten gewundert. RS-related
this has him for twenty minutes puzzled
'This has puzzled him for twenty minutes. (RS-related)'

b. Das hat ihn zwanzig Minuten lang gewundert. E-related
this has him twenty minutes long puzzled
'This has puzzled him for twenty minutes'

(207) a. Das hat ihn für zwanzig Minunten verwundert. RS-related
this has him for twenty minutes PREFIX-puzzled
'This has puzzled him for twenty minutes. (RS-related)'

b. ??Das hat ihn zwanzig Minuten lang verwundert. E-related
this has him twenty minutes long PREFIX-puzzled
'This has puzzled him (continuously) for twenty minutes.'

4.3.3. *-ung* nominalizations, and further result state diagnostics

That only PREFIX-√PSYCH verbs have a complex bi-eventive structure in the sense of a change-of-state predicate is also underscored by the behaviour of the two groups of verbs with respect to *-ung* nominalizations. As Roßdeutscher & Kamp (2010) point out only verbs which have an event structure with a result state component license *-ung* nominalizations in German as (208b) demonstrates for the example of the non-psych verbs formed with the Root √arbeit 'work':

(208) a. arbeit- → *Arbeit-ung
work work-SUFFIX

b. ver-arbeit- → Ver-arbeit-ung
PREFIX-work PREFIX-work-SUFFIX

As Roßdeutscher and Kamp explicitly formulate: "Our theory identifies as the source of *-ung* nominalisability that a result state relation 'e′ CAUSE s' is introduced at a level that is visible to *-ung*" (2010: 206). Their behaviour in (209) shows that the √PSYCH do not contain such a result state relation caused by a change of state as opposed to the PREFIX√PSYCH verbs, since only the latter license *-ung* nominalizations. As the comparison between (208) and (209) reveals, √PSYCH and PREFIX-√PSYCH verb pairs behave in this respect like many other pairs of German prefix–non-prefix verbs formed on the basis of the same Root, such as *arbeiten* 'work' – *ver-arbeiten* 'PREFIX-work' in (208).

(209) a. wunder- → *Wunder-ung
puzzle puzzle-SUFFIX

b. ver-wunder- → Verwunder-ung
PREFIX-puzzle PREFIX-puzzle-SUFFIX

c. ärger- → *Ärger-ung
annoy/anger annoy/anger-SUFFIX

d. ver-ärger- → Ver-ärger-ung
PREFIX-annoy/anger PREFIX-annoy/anger-SUFFIX

That PREFIX-√PSYCH verbs are telic change-of-state accomplishments, which contain a caused result state relation, can further be shown by the fact that this result state can be modified by adverbs like *völlig/ ganz und gar/ vollständig* 'completely', while this is not possible for √PSYCH verbs as (210) illustrates.

(210) a. Das hat ihn völlig/vollständig verwundert.
this has him completely PREFIX.puzzled
'This puzzled him completely.'

b. Das hat ihn ganz und gar/völlig verärgert.
this has him completely PREFIX.annoyed
'This annoyed him completely.'

c. *Das hat ihn völlig/vollständig gewundert.
this has him completely puzzled

d. *Das hat ihn ganz und gar/völlig geärgert.
this has him completely annoyed

A diagnostic put forward by Higginbotham (1997) as an argument for the bi-eventive analysis of causatives in general provides the final piece of evidence that only PREFIX√PSYCH verbs but not √PSYCH verbs have a complex event structure like other causative change-of-state verbs: different adverbials (can) modify the different sub-eventualities of PREFIX√PSYCH verbs as for other non-psych change-of-state causatives (see also Folli & Harley 2005) as (211) demonstrates, while this is not the case for √PSYCH verbs. In (211a) the adverbial *absichtlich* modifies the causing subevent, while *vollkommen* in (211b) modifies the caused result state.

(211) a. Peter verwunderte mich absichtlich.
Peter PREFIX.puzzled me deliberately

b. Das/ Peter verwunderte mich vollkommen.
that Peter PREFIX.puzzled me completely

c. *Das/ Peter wunderte mich vollkommen.
that Peter puzzled me completely

d. *Peter wunderte mich absichtlich.
Peter puzzled me deliberately

In conclusion, PREFIX-√PSYCH verbs have a complex bi-eventive structure with a change of state and a result state as opposed to √PSYCH verbs. Since √PSYCH verbs do not contain a change of state, and have been shown to be atelic predicates, these verbs could either be activities or states. Consequently, further tests are needed to decide between those two possibilities.

4.3.4. Anaphoric reference with *geschehen*

Anaphoric reference with *geschehen* 'happen' is only possible with dynamic predicates as (212) demonstrates, and can therefore be used to disambiguate atelic states from atelic activities (see Maienborn 2003, 2005).

(212) a. Eva spielte Klavier. Das geschah während…
Eva played piano. This happened while

b. Eva besaß ein Haus. *Das geschah während…
Eva owned a house. This happened while

(Maienborn 2005: 185-186, (11a), (13a))

√PSYCH verbs show the exact same behaviour as states, they are not available for anaphoric reference with *geschehen* as (213) shows.

(213) a. Der Stau ärgerte Peter. *Das geschah während…
the traffic.jam annoyed Peter this happened while

b. Peter/ Peters Frage wunderte ihn. *Das geschah während…
Peter/ Peter's question puzzled him this happened while

This diagnostic thus clearly proves that √PSYCH verbs are indeed states.

4.3.5. Locative and adverbial modification

Further evidence for the status of √PSYCH verbs (with nonagentive subjects) as states (see also Rothmayr 2009) comes from the fact that they are, contrary to activities, incompatible with manner adverbials, like e.g. *auf unpassende Weise* 'in an inappropriate way' in (214), and with event-related locative modifiers, like e.g. *unter einem Baum* 'under a tree' in (215) (see Maienborn 2005 on this test in general):

(214) *Der Stau ärgerte den Poldi auf unpassende Weise.
the traffic jam annoyed the Poldi in inappropriate way
'The traffic jam annoyed Poldi in an inappropriate way.'

(215) *Das Grinsen ärgerte die Irmi unter einem Baum.
the grinning annoyed the Irmi under a tree
'The grinning annoyed Irmi under a tree.'

(Rothmayr 2008: 197, (26), (28))

4.3.6. Summary and conclusion

A number of standard event structure tests has shown that there is a clear difference between √PSYCH verbs and PREFIX-√PSYCH verbs with respect to their aspectual properties: while PREFIX-√PSYCH verbs are telic verbs, expressing a caused change of state, and contain a result state relation, √PSYCH verbs are atelic, do neither contain a change of state nor a result state (see summary in TABLE 7). Therefore, it can be concluded that √PSYCH verbs are states, while PREFIX-√PSYCH verbs are change-of-state accomplishments.

(216) TABLE 7: Summary: event structure properties

√PSYCH verbs	**PREFIX-√PSYCH verbs**
atelic	telic
no change of state	change of state
no result state	result state
states	**accomplishment**

Consequently, a few conclusions with respect to the debates about the event structure properties of ObjExp verbs in the literature can already be drawn at this point: firstly, claims that ***all*** ObjExp verbs are a homogeneous group with respect to their event structure properties cannot be correct as the results of the tests show (in addition to the discussion in the previous sections 4.1-4.2). Neither can the claims by Rothmayr (2009) be true that ***all*** ObjExp are ambiguous between a stative and an eventive reading because of the peculiar lexical semantic structure these verbs share in general, since the comparison of √PSYCH and PREFIX-√PSYCH verbs has shown that there is a group of verbs which is exclusively stative, while another one is exclusively eventive. Secondly, while ObjExp verbs show diverse behaviour with respect to their event structure properties, this behaviour is – at least for the verbs investigated here – far from arbitrary as criticized by Klein & Kutscher (2005) but rather morphosyntactically predictable in a systematic way found in the grammar of German independently of psych verbs as (217) demonstrates: the morphologically simple (√PSYCH) verbs are atelic, while the complex prefixed versions are telic, expressing a change of state (see Zifonun 1973: 140; Abraham 1995 on German prefix-verbs in general; also Kratzer 2002). The only difference is that the simple verb forms often denote an activity with non-psych verbs, while they denote states with √PSYCH verbs. However, as the previous section has shown √PSYCH can also form activities such as for *ärgern* 'annoy', *reizen* 'provoke/rile', (partly also *nerven* 'vex'*, stören* 'disturb/bother'), and the corresponding *sich* √PSYCH SubjExp verbs. As the examples like *lieben* 'love', or *kennen*

'know' in (218) show, the crucial generalization is that the morphologically simple verb consisting of the Root only denotes an atelic eventuality.

(217) a. Er arbeitet stundenlang.
he works hours.long
'He is working/works for hours.'

b. Er ver-arbeitet das Material in einer Stunde.
he PREFIX-works the material in a hour
'He processes/manufactures the material in an hour.'

c. Sie rechnete stundenlang.
she counted/calculated hours.long
'She was calculating/counting for hours.'

d. Sie/ Der Computer er-rechnete das Ergebnis in zwei Minuten.
she/ the computer PREFIX-calculated the result in two minutes
'She/The computer calculated the result in two minutes.'

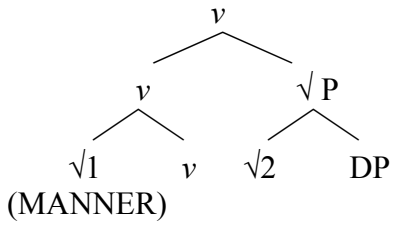
(218) Table 8: Examples of atelic √Root – telic Prefix-√Root verbs

√ROOT → atelic verb	**PREFIX + √ROOT → telic**
√arbeit(en) 'work'	ver-√arbeit(en) 'process'
√rechn(en) 'count'	er-√rechn(en) 'calculate'
√kenn(en) 'know'	ver-√kenn(en) 'misjudge', er-√kenn(en) 'realize'
√lieb(en) 'love'	ver-√lieb(en) 'fall in love'
√führ(en) 'lead'	ver-√führ(en) 'seduce'
√koch(en) 'cook'	ver√koch(en) 'overcook', ab√koch(en) 'boil'
√bau(en) 'build'	ver-√bau(en) 'bar', ab-√bau(en) 'dismantle', zu-√bau(en) 'build up'
√hau(en) 'hit'	ver-√hau(en) 'whack'
…	… (see Zifonun 1973: 171 for many more prefix verbs like that)

With respect to this, √PSYCH-Roots show clear similarities to Roots which are usually classified as 'manner' modifier Roots (see Levin & Rappaport Hovav 2010): these Roots form simple atelic monoeventive verbs, and can build result denoting complex verbs only by adding a prefix, as opposed to 'result' Roots, like e.g. √open. While this is surprising given the intuitive ontological similarity of √PSYCH to (result) state Roots, it fits completely into the empirical picture obtained so far: √PSYCH can either form stative ObjExp verbs or *sich*-SubjExp verbs, or

they can form agentive versions of these verbs, which are activities as the discussion in 4.1, and 4.2.4, has shown. Consequently, it seems that √PSYCH Roots are stative ('manner') modifier Roots in the terminology of a decompositional model like e.g. Embick (2009), which assumes that Roots can occupy either of the two positions √1, or √2 in (219). However, these Roots can also modify eventive verbalizing v heads which results, for instance, in the agentive activity version of *ärgern*, or the *sich*-√PSYCH verbs. In other words, they can modify a *v* head which introduces atelic eventualities, but they cannot provide a result state as other Roots of the √open-type can.

(219) Attachment sides for Roots (based on Embick (2009): 5-6, (8)/(11))



The fact that the agentive *sich*-SubjExp alternate of the √PSYCH verbs can form resultative predicates, just like other non-prefixed non-psych verbs of the pairs in (217-218), as illustrated in (220) provides further empirical evidence for this view. While these resultatives seem to be of a special type (see Beavers 2011: 343 on such 'ECM resultatives' of the form *drink oneself silly*; Haider 2013: 176 on *sich dumm und dämlich lachen* 'laugh oneself stupid and silly'), their characteristic is that they are formed with an atelic manner verb like *drink, laugh,* or *work*. With respect to that, √PSYCH behave again like *v*-modifier Roots, given the assumption that this is the prerequisite to form resultative constructions, in which another element, like *zu Tode*[47] 'till death', provides the result state component (RSP) (see Embick 2009: 7-8). For (result) state

[47] These resultative constructions are in fact tricky (see Ehrich 2002; Oya 2010), the observation that *erschrecken* 'frighten', which I claim to be a telic change-of-state verb (see also Haiden 2005), is possible in this construction seems to violate the ban on secondary resultatives as discussed by Kratzer (2005), and Haider (2013: 186).

(i) Die Bären erschreckten die Wanderer zu Tode.
the bears frightened the wanderers to death
'The bears frightened the wanderers very much.'
(Müller 2005: 676, note 3, (i), attributed to Richter (2002: 244))

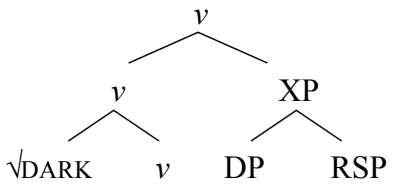
However, I would argue that there is a subtle difference in meaning between the two constructions: the use with *erschrecken* in (i) does not mean that the wanderers die(d) because of fear, as Müller (2005) points out. Consequently, he correctly gives the translation 'very much' for *zu Tode* in (i). To the contrary, the use in (220) with the atelic verbs does indeed, or at least can indeed, mean that someone 'works so much till/that he literally dies', or that someone 'gets so excited/annoyed that he literally dies' (see also Ehrich 2002: 322 on *ärgern*). Of course, these constructions are usually used in a figurative way, nevertheless, *zu Tode* does not mean 'very much' in these constructions but really denotes the result of the action, i.e. that the person is/will be dead as a result of the working/getting annoyed, etc. Moreover, since the experiencer is a direct object in nonstative ObjExp verbs as in (i) (as I will argue in 5.1), the fact that secondary predicates can be predicated over it is in line with the analysis.

Roots like √DARK this is not possible since they cannot be Root modifiers (see 221). Consequently, the prefix (or particle) can be interpreted as contributing the resultativity component in the prefixed telic versions (see Haider 2013: 185-186), such as in the PREFIX-√PSYCH verbs.

(220) a. sich zu Tode arbeiten
REFL to death work
'work (such much) till one dies'

b. sich zu Tode ärgern/ freuen
REFL to death annoy/ delight
'get annoyed/happy (so much) till one dies'

(221) (Result) state Roots: Root Modifying *v* not OK (Embick 2009: 8, (19))



This is unexpected under a theoretical view like Levin & Rappaport Hovav's (2011) manner-result complementarity but seems to be empirically the case for German √PSYCH Roots. Moreover, the strict manner-result dichotomy has been shown to be inadequate, or at least too strict in other cases as well, as the existence of Roots which contain both manner and result proves (see Beavers & Koontz-Garboden 2014; Beavers et al. 2017). The fact that German √PSYCH-Roots do not pattern with other stative result roots like √open, etc. accounts for the fact that they can only form change-of-state causatives by adding a prefix, which is necessary to provide the result component, which cannot be provided by the √PSYCH-Roots themselves.
A last piece of evidence, which underscores that the √PSYCH behave like other ('manner') modifier Roots is their behaviour with respect to adjectival passives as in (224) (see 4.4.2 for more details). They pattern exactly like other atelic non-psych verbs built on the basis of manner Roots as described by Gehrke (2015): while the morphologically simple verb formed on the basis of the Root is unacceptable, or at least rather bad (i.e. only marginally acceptable under Kratzer's (2000) 'job done reading') as in (see 223), the adjectival passives of the prefix-/particle-forms are perfectly fine (see 222). Gehrke, therefore, suggests as well that the prefix could be analysed as a secondary resultative predicate in these cases.

(222) a. Das Feld ist über-flutet.
the field is over-flooded

'The field is flooded.'

b. Das Gebäude ist er-baut.
the building is con-structed
'The building is constructed.'

(223) a. ??Das Feld ist geflutet.
the field is flooded
'The field is flooded.'

b. ??Das Gebäude ist gebaut.
the building is con-structed
'The building is constructed.'

(Gehrke 2015: 911-912, (29)-(30))

(224) a. Der Mann ist ver-ärgert/ ver-wundert/ er-freut.
the man is PREFIX-annoyed/ PREFIX-puzzled/ PREFIX-delighted

b. *Der Mann ist geärgert/ gewundert/ gefreut.
the man is annoyed/ puzzled/ delighted

I take all this to be compelling evidence that √PSYCH Roots are indeed modifier Roots, i.e. Roots attaching directly v in a decompositional model of the verbal phrase. At least they show in many respects the same behaviour typically attributed to this kind of Roots even though this might run counter to the ontological status as state Roots one would assume from them.
In the next section, it will be shown that the event structure differences between √PSYCH verbs, and PREFIX-√PSYCH verbs coincide with a number of other grammatical differences between the stative and nonstative ObjExp verbs in German, some of them, such as their behaviour with respect to passivization, are among the controversially discussed 'psych properties' (see 2.2).

4.4. Different grammatical properties of √PSYCH and PREFIX-√PSYCH verbs

The crucial question is now whether these differences in aspectual properties can explain the differences in the behaviour of ObjExp verbs diagnosed in the literature, and can thus bring us closer to an analysis of the controversially discussed group of ObjExp verbs, especially their stative variant, or reading. In fact, this means the crucial question is whether stative √PSYCH ObjExp verbs behave systematically different from PREFIX-√PSYCH (and other nonstative) ObjExp verbs as our hypothesis predicts. If event structure differences are indeed crucial for mediating the different readings because they are indicative of different syntactic structures

from which they are read off, we should see differences in the syntactic behaviour and grammatical properties of these two groups of verbs.

This is exactly the point Grafmiller (2013) raises by examining the empirical behaviour of English ObjExp verbs with respect to a number of tests in order to evaluate Landau's (2010) claim that experiencers in nonagentive ObjExp verb constructions display oblique or PP-like behaviour. On the basis of the results of his tests, Grafmiller comes to the conclusion that, in English, "all Obj-Exp verbs have both external and direct internal, affected arguments, just like ordinary causative verbs" (2013: 41). One of his arguments in favour of this conclusion is, for instance, that English ObjExp verbs "readily" take secondary predicates, or resultatives, which would not be expected, and be rather hard to explain if they were oblique or PP-like, given that resultative predicates cannot be predicated of indirect goal or other objects but only of direct objects that are affected by the action denoted by the verb (see Simpson's 1983 Direct Object Restriction). Differences in agentivity do not affect the behaviour neither in this nor in any of the tests, Grafmiller explicitly points out. For the stative German ObjExp verbs like *ärgern* 'annoy', or *freuen* 'delight', however, the reverse is true, they do not take resultative secondary predicates (see 225). Yet this would be puzzling if their experiencer objects were internal direct objects, because, in this case, they should indeed take resultatives, as these can only be predicated of accusative direct objects (and unaccusative subjects) in German (see Haider 2013: 173-175). On the contrary, stative ObjExp verbs behave like datives, which are "(much) more heavily restricted as controllers of secondary predicates" than direct objects, which can 'readily' control both depictives and resultative secondary predicates in German, as McFadden (2004: 122) concludes comparing the properties of datives and direct objects in German.

(225) a. *Der Computer ärgert ihn zu Tode.
the computer annoys him to death

b. *Das Geschenk freut mich zu Tode.
the present delights me to death

This pattern is repeated for German in a number of the tests Grafmiller uses. However, since most of the other tests he uses for English are rather dubious with respect to their explanatory power for German, and, therefore, seem not to be appropriate to give meaningful insides for the German data, they are not discussed here. Yet the crucial question he raises is to the point for this study as well: can we see any evidence that the experiencer argument in stative ObjExp verbs shows behaviour that differs from regular canonical internal direct accusative objects? If not, any claims such as Landau's (2010) are indeed hard to maintain. However, the evidence presented in this section will show that experiencer arguments in German do not always behave

like canonical direct accusative objects, and that this, in fact, depends on the aspectual properties of the ObjExp verb construction. The other nine phenomena discussed here will reveal that experiencer arguments in ***stative*** ObjExp verbs behave differently from experiencer arguments in nonstative ObjExp verbs in many ways, whereas the ***non***stative ObjExp verbs mostly behave like standard canonical accusative objects. However, the behaviour of the stative accusative Class II ObjExp verbs is not totally peculiar either, with respect to most of the phenomena, it is very similar to the behaviour of Class III dative ObjExp verbs.

4.4.1. Verbal passive

One of the central questions in the debate about the diverse behaviour of psych verbs has always been the question whether they can form verbal passives or not (see e.g. Pesetsky 1995; Tenny 1998; among others). This debate has long suffered from the fact that in languages like English verbal and adjectival passives can only be disambiguated on the basis of further tests as the morphosyntactic forms are identical. Since German clearly distinguishes verbal passives, which are formed with the default passive auxiliary *werden* 'become', from adjectival passives formed with the auxiliary *sein* 'be', the behaviour of ObjExp verbs with respect to verbal passivization can be directly observed.

Here, the first difference can be seen: the stative ObjExp verbs do not form verbal passives (see 226b), whereas the nonstative ObjExp verbs do form verbal passives (see 227/228b), even with inanimate subjects. In their inability to form verbal passive, the stative accusative ObjExp verbs behave just like the dative Class III ObjExp verbs (see 229).

(226) a. Diese Frage/ Der Lehrer wunderte die Schüler.
this.NOM question / the.NOM teacher puzzled the pupils.ACC
'This question/The teacher puzzled the pupils.'

b. *Die Schüler wurden (durch diese Frage/ von dem Lehrer) gewundert.
the.NOM pupils became (through this question/ by the teacher) puzzled
'The pupils were puzzled by these questions/the teacher.'

(227) a. Diese Frage/ Der Lehrer verwunderte die Schüler.
this.NOM question/ the.NOM teacher PREFIX-puzzled the.ACC pupils

b. Die Schüler wurden (durch diese Frage/ von dem Lehrer) verwundert.
the.NOM pupils became (through this question/ by the teacher) PREFIX-puzzled
'The pupils were puzzled by these questions/ the teacher.'

(228) a. Anna wurde (von Paul) oft enttäuscht.
Anna became (by Paul) oft disappointed
'Anna was often disappointed by Paul.'

b. Wer kam, wurde begeistert. (*B.Z.*, bz-berlin.de)
who came became inspired/thrilled
'Those who came were inspired.'

(229) a. Der Film gefällt dem Zuschauer.
the.NOM film appeals.to the.DAT viewer

b. *Der Zuschauer wurde (von/durch den Film) gefallen.
the.NOM viewer became (by/ through the film) appealed.to

c. *Dem Zuschauer wurde (von/durch den Film) gefallen.
the.DAT viewer became (by/ through the film) appealed.to

It is important to highlight that the differences in the ability to passivize cannot be explained by the stativity of the respective ObjExp verbs, since there is absolutely no general restriction on verbal *werden*-passivization of stative verbs as clearly stative SubjExp verbs regularly form verbal passives as in (230) (see Grillo et al. 2016; Grillo et al. accepted).

(230) a. Die Schüler lieben diesen Lehrer.
the.NOM pupils love this.ACC teacher
'The pupils love this teacher.'

b. Dieser Lehrer wird von den Schülern geliebt.
this.NOM teacher becomes by the pupils loved
'This teacher is loved by the pupils.'

While the fact that the stative verbs like *wundern* 'puzzle', etc. do not form verbal passives seems to be one of the very few generally accepted findings many studies agree upon (e.g. Fanselow 1992; Wegener 1998, 1999, 2001; Primus 2004, 2006; and others), the status of the verbal passives with inanimate stimulus arguments is less clear. However, on the empirical basis of well-documented examples in the literature (see 231a-c) as well as from the internet, books, newspapers, and corpora (see 231d-h), it has to be concluded that verbal passives of ObjExp verbs without agentive subjects are possible. In other words, and this is worth highlighting: passivization of ObjExp verbs does not depend on the agentivity of the subject.

(231) a. Der Sohn wurde von der Nachricht gequält/ verwirrt/ beeindruckt/
the son was[48] by the news tormented/ confused/ impressed/
beunruhigt/ getröstet/ genervt.
worried / consoled/ annoyed

[48] Please note: these are the original glosses, it is, however, important that the passive auxiliary in all examples sentences in (231) is *werden* 'become', the auxiliary of the verbal passive, not *sein* 'be', the auxiliary of the adjectival passive.

'The son was impressed/worried/consoled/annoyed by the news.'
(Marelj 2013:153, (44))

b. Hans wurde von der Nachricht beeindruckt/ beunruhigt/ getröstet/
Hans AUX.PASS.PAST.3SG by the news impress / worry / console /
genervt.
annoy.PPerf
'Hans was impressed/worried/consoled/annoyed by the news.'
(Klein & Kutscher 2005: 6, (16))

c. er ist/?wird beeindruckt/überrascht/gestört von/ durch der (die) Höhe des
he is/ becomes impressed/ surprised/ worried by/ through the the hight the
Preises.
price
'He is impressed/surprised/worried by the cost amount (lit. amount of the price).'
(Fanselow 1992: 282, (8d), glosses and translations are mine)

d. Vor allem aber wurden die Leute durch die Nachricht beeindruckt, dass…
before all but became the people by the news impressed that…
'Above all, people were impressed by the news that…'
(Labitzke 2013: *Marius: der verleumdete Retter Roms*, p. 314, via books.google.de)

e. Lipponen wurde durch die Vorfälle sichtlich verärgert (C: NZZ03/Juni.03020)
Lipponen became through the incidents obviously annoyed
'Obivously, Lipponen got annoyed by the incidents.'

f. Die zaghafte Unterstützung […] hatte nur einen Erfolg; Premier Adoula wurde
the tentative support had only one success premier Adoula became
gründlich verärgert. (C: Z62/MAR.00354)
thoroughly annoyed
'The tentative support […] had only one result: premier minister Adoula got/was completely annoyed.'

g. Welser-Möst wurde damit auf Dauer verärgert. (C: NEW13/JUN.00134)
Welser-Möst becamse thereby on long.term annoyed
'This annoyed Welser-Mölst for a long time.'

h. Dafür wurde man damit verärgert, daß... (C: U98/APR.27554)
instead.of became one thereby annoyed that
'But, one was annoyed by…'

It is, however, beyond doubt that not all nonstative Class II ObjExp verbs can equally well form verbal passives, for some verbs, verbal passives are usually not accepted as (232) demonstrates.

(232) a. Diese Fragen erstaunten die Schüler.
these questions.NOM amazed the.ACC pupils

b. *Die Schüler wurden (durch/ von diesen Fragen) erstaunt.
the.NOM pupils became through/ by these questions amazed

A clear correlation can be seen here: verbs which can easily have ('fully') agentive readings can also have verbal passives – even in their nonagentive eventive use –, verbs which are only 'weakly/–agentive' cannot have verbal passives, and the stative ObjExp verbs do not form verbal passives either. In conclusion, event structure seems to be the crucial factor for verbal passivization, not agentivity as the existence of verbal passives of eventive but nonagentive ObjExp verbs shows. Stative ObjExp verbs do not have verbal passives at all.

4.4.2. Adjectival passive

The situation gets even more interesting with respect to adjectival passivization. But to begin with, a brief comment about German adjectival passive, traditionally called *Zustandspassiv*, is in order here. While the *Zustandspassiv* was a matter of controversial discussion for decades, since the status of the construction, and its proper analysis could not be agreed upon (see Wilmanns 1909; Behaghel 1924 for an analysis as verbal passive ellipsis; Glinz 1952; Helbig 1987; Zifonun et al. 1997 for an analysis as a third Voice category in its own right; see Litvinov & Nedjalkov 1988; Nedjalkov 1988; Leiss 1992 for an analysis as a resultative construction). More recently, however, opinions have converged on an analysis of the *Zustandspassiv* as adjectival passive involving a copula and an adjectival participle (see Lenz 1994; Abraham 1995; Rapp 1996, 1997; Wunderlich 1997b; Kratzer 2000; Anagnostopoulou 2003a; Maienborn 2007; Gehrke 2015). As Maienborn (2007) shows convincingly, arguments such as adjectival *un*-affixation, adjectival compounding, the comparative use, and coordination provide evidence in favour of an analysis of the German *Zustandspassiv* as an adjectival passive, while all other analyses face major problems (see Maienborn 2007, *et seq*. for an extensive discussion).

Cross-linguistically, the theoretical literature on adjectival passivization from Levin & Rappaport (1986) to Bruening (2014) converges on the assumption that the internal direct object plays a central role for adjectival passivization as the *Sole Complement Generalization* (see 233) shows as well as Bruening's (2014) observation that adjectival passives can take unaccusative verbs as input but do not permit indirect objects, or applied arguments, as Wasow (1977) has already shown.

(233) *Sole Complement Generalization* (Levin & Rappaport 1986: 631, (20)):
An argument that may stand as sole NP complement to a verb can be externalized by A[djectival]P[assive]F[ormation].

Recent work on adjectival passivization of unaccusative verbs in German (see Gese et al. 2011) has further reinforced the view that the presence of an internal direct object is a central prerequisite for adjectival passivization. This is also in line with Gehrke's (2015) account of German adjectival passive, in which she formulates two generalizations:

(234) Generalisation 1: Only verbs with internal (theme or experiencer) arguments can appear in German adjectival passives.

(235) Generalisation 2: Only verbs that are associated with a change of state along a (unique, one-dimensional) scale can appear in German adjectival passives.
(Gehrke 2015: 908-909, (22), (23))

The crucial observation for psych verbs is that Class II ObjExp verbs fall into two sharply distinct groups with respect to adjectival passivization: stative √PSYCH verbs like *ärgern* 'annoy'*, wundern* 'puzzle'*, freuen* 'delight'*, ekeln* 'disgust'*,* etc. on the one hand do not form adjectival passives[49] (see 236), while ***all other*** ObjExp verbs, no matter whether they are classified as '±agentive' or '–agentive', do have adjectival passives (see 237-238):

(236) a. Das ärgert/ freut/ wundert/ ekelt den Schüler.
this.NOM annoys/ delights/ puzzles/ disgusts the.ACC pupil

b. *Der Mann ist geärgert/ gefreut/ gewundert/ geekelt.
the.NOM man is annoyed/ delighted / puzzled/ disgusted

(237) a. Das ver-ärgert/ er-freut/ ver-wundert den Schüler.
this.NOM PREFIX-annoys/ PREFIX-delights/ PREFIX-puzzles the.ACC pupil

[49] Rapp (1996) argues that these forms are simply morphologically blocked by the existence of the prefixed forms in the lexicon because they both 'refer to the same result state'. However, this argumentation seems not to be convincing for a number of reasons: firstly, as shown above, there is no result state in the non-prefix verbs (see also Möller 2015 on that). Secondly, diachronic data show that the passive participle forms did exist in parallel to the prefixed forms in older stage of German, which is a clear argument against morphological blocking. Thirdly, other verb pairs which show the same morphosyntactic patterning exist in German (e.g. *ändern* 'change' – *ver-ändern* 'PREFIX-change', see Bierwisch 2005) in which the morphologically simple forms without prefixes do have adjectival passives, and are not blocked by the existence of the prefixed form. Besides, the dynamic reading of *ärgern* (under which it is an activity verb, see 4.1) does have an adjectival passive under the Kratzer'ian (2000) 'job done reading' like e.g. the scenario in (i).

(i) "So, die Schüler sind geärgert, ich kann Feierabend machen", sagte der Lehrer.
'"Well, the pupils are annoyed, I can go home now," the teacher said.'

Apart from that, the argumentation seems to be quite circular, and the crucial question still remains why only and exactly these verbs have their adjectival passive forms expressed by another verb form, since the existence of the prefixed form is not enough in general as *verändern–ändern* shows. I take this to be compelling evidence that this restriction is grammatical in nature, not least since even Maienborn (2007: 104) – in her generally pragmatics-based account of adjectival passives – acknowledges that there are (very few) verbs whose adjectival passives are ruled out by clearly *grammatical* restrictions, among them verbs like *freuen* 'delight', as she explicitly points out.

b. Der Schüler ist verärgert/ verwundert/ erfreut.
the.NOM pupil is annoyed/ delighted / puzzled

(238) a. Das enttäuscht den Schüler.
this.NOM disappoints the.ACC pupil

b. Der Schüler ist enttäuscht.
the.NOM pupil is disappointed

c. Das erstaunt den Schüler.
this.NOM amazes the.ACC pupil

d. Der Schüler ist erstaunt.[50]
the.NOM pupil is disappointed

In their inability to form adjectival passives, the stative accusative Class II verbs again behave like the stative dative Class III ObjExp verbs (see 239), which are stative and do not have direct internal objects, and therefore cannot form adjectival passives:

(239) a. Das imponierte dem Mann.
this.NOM impressed the.DAT man
'This impressed the man.'

b. *Der Mann ist/war imponiert.
the.NOM man is/ was impressed

c. *Dem Mann ist/war imponiert.
the.DAT man is/ was impressed
'The man is/was impressed.'

While it seems that change of state, at least under 'a broader notion' as Gehrke (2015: 910) puts it, is the major requirement for verbs to be able to form (good input for) adjectival passives (see also Abraham 1995: 109), it is interesting to note that Engelberg (2000a: 58-59), and Zifonun et al. (1997) observe that atelic, 'non-transformative' verbs, i.e. verbs without a change of state, are not always categorically ruled out, but that such verbs can sometimes (marginally) form

[50] For Zifonun (1992), and Zifonun et al. (1997), these *sein* 'be' + past participle constructions are not 'real' adjectival passives (*Zustandspassiv*) because according to their definition *Zustandspassiv* only exists for verbs which have verbal passives (*Vorgangspassiv*) as well, which follows from their approach to analyse the *Zustandspassiv* as third verbal Voice category. Therefore, they call *sein* + past participle constructions of verbs which do not have verbal passives *sein-Konverse* 'be converse'. However, whichever label is attributed to these forms, the central question to be accounted for is the same: why is it that some ObjExp verbs can form the *sein-Konverse*/adjectival passive, while others cannot. Such an approach also seems to be problematic because the availability of the *sein* + past participle form is not parallel to the restrictions on verbal passives: verbs like *anwidern* 'disgust', or *erstaunen* 'amaze', which do not have verbal passives, do have adjectival passives just as the ObjExp verbs which show verbal passives like *enttäuschen* 'disappoint'. This seems to indicate that the two forms are indeed independent of each other, and *Zustandspassiv* is not a related third Voice category (independently of that, such a 'third Voice category analysis' for the adjectival passive faces a number of other problems as well, see Maienborn (2007) for more arguments against such an analysis).

adjectival passives if they have internal direct accusative objects (see 240). However, the adjectival passive gets a different temporal interpretation in such cases, which has to be simultaneous to the active counterpart of the base verb (see 240b).

(240) a. Der Gefangene wurde/ war den ganzen Tag von drei Soldaten bewacht.
the prisoner became/ was the whole day by three soldiers guarded
'The prisoner was guarded by three soldiers the whole day long.'
(Zifonun et al. 1997: 1812, (17), glosses and translation are mine)

b. ich bin geliebt[51] ↔ jemand liebt mich
1.SG.NOM am loved someone loves me

c. die Kaserne ist bewacht
the barracks is guarded
'The barracks are guarded.'

d. die Hütte ist bewohnt
the hut is inhabited

e. das Kind ist vernachlässigt
the child is neglected

(b.-e.: Engelberg 2000a: 59, (43a), (44), glosses and translations are mine)

Gillmann (2016) explicitly argues that both diachronically as well as synchronically only verbs which contain an 'inherent stative phase' are felicitous in the adjectival passive in German (see also Rapp 1996, 1997). Consequently, telic verbs with result state as well as stative verbs whose event structure "remains unchanged" are possible, according to Gillmann, even though the use of the latter group of stative verbs has only a marginal status in Modern High German contrary to Middle High German, as she concedes. This can be explained by the diachronic development of the *werden* verbal passive as the default passive also for stative verbs (see Eroms 1992; Kotin 2003). Yet Gillmann concludes that stative verbs are not generally ruled out in the adjectival passive, but the adjectival passive, if it exists, is characterized by an interpretative ambiguity depending on the aspectual properties of the respective verbs in the way observed by Engelberg (2000a). This means in other words, the (marginal use of the) adjectival passive of stative verbs differs from the (general use with) nonstative verbs in its temporal interpretation as demonstrated in (240). It is important to highlight in this context that the adjectival passives of ObjExp verbs clearly differ from the marginal use of stative verbs in the adjectival passive as

[51] Please note that this form is very restricted in its use with other atelic SubjExp verbs, only a very limited number of verbs can build the adjectival passive in a limited number of restricted constructions, while SubjExp verbs productively form verbal passives with *werden* 'become' (see Zifonun et al. 1997: 1815).

Nicolay (2007: 202-203) observes[52]: ObjExp verbs do not necessarily show the special temporal interpretation of simultaneity as opposed to the few stative verbs which can be used in the adjectival passive (see also Möller 2015: 87-94).

This distinction can also be related to the distinction between target state and resultant state passives introduced by Kratzer (2000). German adjectival passives split into two subclasses, which Kratzer distinguishes on the basis of their behaviour with respect to the adverbial *immer noch* 'still' as illustrated in (241-242):

(241) a. Die Geisslein sind immer noch versteckt.
The little goats are (still) hidden

b. Die Reifen sind immer noch aufgepumpt
The tires are (still) pumped up

(242) a. Das Theorem ist (*immer noch) bewiesen
The theorem is (*still) proven

b. Der Briefkasten ist (*immer noch) geleert.
The mail box is (*still) emptied

(Kratzer 2000: 385-286, (1a-b), (2a-b))

While only change-of-state verbs provide good input for target state passives, as Anagnostopoulou (2003a), Embick (2009), and others, argue (see 5.1.4 for a detailed discussion), a wider range of verbs can form resultant state passives. With activity verbs, for instance, resultant state passives but not target state passives are marginally acceptable, if a 'job is done', or 'that's over' interpretation is imposed, as Kratzer (2000: 388) shows for examples such as (243): under certain scenarios, such as e.g. that someone asked the speaker to take care of the cat, and pet it once a day, this sentence is (marginally) acceptable.

(243) Die Katze ist schon gestreichelt.
The cat is already petted
(Kratzer 2000: 388, (7a))

A similar restriction also holds for (the marginal uses of) stative verbs, and other atelic verbs of Engelberg's sample (see 240): these verbs might be acceptable (to some degree) as resultant state passives but cannot form target state passives as (244) demonstrates.

(244) Ich bin (*immer noch) geliebt.
1.SG.NOM am (*still) loved

[52] Even though Nicolay makes this observation, she, nevertheless, classifies all ObjExp verbs as stative verbs.

For Kratzer, as she points out explicitly (2000: 393), even stative (causative) verbs should be able to form adjectival passives, with the exception of a very limited number of verbs like *own*, and 'the old preteropresents'. Consequently, it is all the more puzzling that ***stative*** Class II and Class III ObjExp are clearly infelicitous in the adjectival passive. However, if one assumes – as many approaches independently of their theoretical background do (see Rappaport Hovav & Levin 1988; Bresnan 1982; Williams 1981) – that the presence of an internal direct object is a prerequisite to form adjectival passives, as formulated in Gehrke's (2015) first generalization in (234), this observation can be explained: stative Class II and dative Class III ObjExp verbs do not form adjectival passives because their experiencer objects are not internal direct objects. A number of other diagnostics like attributive use of the past and present participle, 'topic deletability', etc., which will be discussed in the following sections, also point in this direction. To sum up, adjectival passivization separates ObjExp verbs into two groups: it sets ***stative*** accusative Class II ObjExp verbs clearly apart ***from all other*** accusative Class II ObjExp verbs, which form adjectival passive, no matter whether they show agentivity restrictions or not. This means adjectival passives are another example of empirical behaviour of ObjExp verbs which cross-cuts the agentivity distinction, and, thus, cannot be explained by it. Contrary to all other ObjExp verbs, Class II ObjExp verbs are infelicitous in the adjectival passive since they violate the requirements for adjectival passive formation, which seems to indicate that they neither contain a change of state nor an internal direct object, just like the dative Class III ObjExp verbs. This difference to the nonstative ObjExp verbs, and the parallel to Class III verbs is further underscored by the empirical behaviour of the stative Class II verbs in a number of other domains, in which they do not follow the behaviour of canonical direct accusative objects but behave like datives.

4.4.3. Attributive use of the past participle

The past participle can be used attributively modifying the internal direct object of its base verbs in German (see Lübbe & Rapp 2011). Especially with verbs that contain a result/target state, this is always freely possible both for transitive and intransitive verbs. Zifonun et al. (1997: 1864-1869) point out that the past participle can only be used attributively for intransitive verbs which they call 'transformative' (following Fabricius-Hansen 1975), i.e. those that contain a change of state. However, the attributive use of the past participle is also possible for transitive verbs which do not contain a change of state, however, yielding a different temporal interpretation (see Engelberg 2000a: 57). The attributive prenominal use of the past participle is explicitly ruled out only for verbs which do not have a direct object (see

Lübbe & Rapp 2011: 260). The fact that the past participle can be used to modify the subjects of intransitive unaccusative verbs (see 246a), which are usually assumed to be underlyingly direct objects, but is not possible with transitive NOM–DAT verbs like *helfen* 'help' (see 246b), further illustrates how the availability of this construction is linked to the presence of an internal direct object.

The past participle of stative Class II ObjExp verbs cannot be used attributively (see 248), which separates them from almost all other transitive verbs, independent of whether they contain a change of state or not (see 245). Furthermore, this sets stative Class II verbs once again apart from ***all other*** Class II ObjExp verbs (see 247), for which the past participle can be used attributively. Stative Class II verbs pattern, again, exactly like dative Class III ObjExp verbs (see 249) with respect to that:

(245) a. das gelesen-e Buch
the.NOM.NEUT.SG read.PASTP-NOM.NEUT.SG book

b. das zerstört-e Haus
the.NOM.NEUT.SG destroy.PASTP-NOM.NEUT.SG house

c. der geliebt-e Sohn
the.NOM.MASK.SG love.PASTP-NOM.MASK.SG son

d. der verbrannt-e Brief
the.NOM.MASK.SG burn.PASTP-NOM.MASK.SG letter

(246) a. die verblüht-e Rose
the.NOM.FEM.SG bloom.PASTP-NOM.FEM.SG rose

b. *der geholfen-e Mann
the.NOM.MASK.SG help.PASTP-NOM.MASK.SG man

(247) a. der ver-ärgert-e Besucher
the.NOM.MASK.SG PREFIX-annoy.PASTP-NOM.MASK.SG visitor

b. der ver-wundert-e Besucher
the.NOM.MASK.SG PREFIX-puzzle.PASTP-NOM.MASK.SG visitor

c. der enttäuscht-e Besucher
the.NOM.MASK.SG disapoint.PASTP-NOM.MASK.SG visitor

d. der erstaunt-e Besucher
the.NOM.MASK.SG amaze.PASTP-NOM.MASK.SG visitor

(248) a. *der gewundert-e Besucher[53]
the.NOM.MASK.SG annoyed.PASTP-NOM.MASK.SG visitor

[53] Please note that ??*der geärgerte Besucher* 'the annoyed visitor' is marginally possible here, but, crucially only under 'job done reading' (see Kratzer 2000), which is available due to the agentive activity reading *ärgern* can have (as discussed in 4.1). But this reading necessarily implies that someone has performed an action of actively (and in a sense physically) annoying the visitor.

b. *der gefreut-e Besucher
the.NOM.MASK.SG delight.PASTP-NOM.MASK.SG visitor

(249) a. *der gefallen-e[54] Besucher
the.NOM.MASK.SG appeal.to.PASTP-NOM.MASK.SG visitor

b. *der imponiert-e Besucher
the.NOM.MASK.SG impress.PASTP-NOM.MASK.SG visitor

While the fact that stative Class II ObjExp verbs do not form adjectival passives might be explained by their stativity, it is not possible to explain the infelicity of the attributive use of the past participle of these verbs on the basis of their stativity, since other atelic stative verbs, which do not contain a change of state either, like e.g. *lieben* 'love' in (245c), allow for the attributive use of the past participle. These verbs, however, all have an internal direct object. Consequently, this shows that there is a structural difference between internal direct objects on the one hand, opposed to datives (of Class III ObjExp verbs as well as of NOM–DAT verbs), and the experiencer-arguments of stative accusative Class II ObjExp verbs on the other hand: for internal direct objects the past participle can be used attributively, whereas for datives, and experiencers of stative Class II ObjExp verbs it cannot. This diagnostic, thus, gives the clearest indication that the experiencer argument of ***stative*** ObjExp verbs, both ***stative*** accusative Class II, and dative Class III ObjExp verbs, is not an internal direct object, but displays indeed 'oblique' or PP-like behaviour in parallel to datives such as internal/goal arguments. Therefore, it cannot be modified by the attributive use of the past participle contrary to canonical direct accusative objects, and subjects of intransitive unaccusative verbs, which are base-generated in the same syntactic position as internal direct objects.

4.4.4. Adjectival use of the present participle

The present participle of ObjExp verbs can be used attributively as an adjective as in (250b). Haider (1985) observes that the accusative direct object can be used with the present participle attributively in such constructions (250a), which is the case for nonstative ObjExp verbs (see 250). These ObjExp verb participles are among the very few present participles which can be used predicatively in copula constructions on a par with regular adjectives as in (250c) (see Lübbe & Rapp 2011).

[54] Please note that this is the judgement for the form of the verb *gefallen* 'appeal to', a homograph form of *gefallen* formed from the different verb *fallen* 'fall/be killed in combative action' exists, which can be used attributively, also in a figurative way such as (the Victorian term) *ein gefallenes Mädchen* 'a fallen woman'.

(250) a. eine mich beeindruckend-e Stimme
a.NOM.FEM 1SG.ACC impress.PRESP-NOM.FEM voice

b. eine beeindruckend-e Stimme
a.NOM.FEM impress.PRESP-NOM.FEM voice
'an impressive voice'

c. seine Stimme war beeindruckend[55]
his.NOM voice was impressing
'his voice was impressive'

(Haider 1985: 240, (46), glosses and translations are mine)

This follows the more general pattern that ObjExp verbs can productively form two types of adjectives (see 251), as described in Ramchand (2018): 'evaluative' adjectives on the basis of the present participle, which modify the stimulus subject of the underlying verb expressing that it has the property of generically causing the emotional state described by the verb, as well as 'psych' adjectives, which attribute an emotional state to an overtly realized argument, the experiencer-object of the underlying verb form, based on the past participle (see also Temme 2014 on psych adjectives in German).

(251) a. This fascinates me.
b. This is fascinating. (evaluative adjective)
c. I was really fascinated. (psych adjective)

However, for the stative Class II ObjExp verbs, none of this holds (see 252-253). Stative accusative ObjExp verbs – like most Class III dative ObjExp verbs (see 254) – cannot productively form adjectives in this way (see also Wegener 1985: 179-180) nor can they be used attributively with the accusative experiencer argument (see 252a/253a).

(252) a. */??eine mich wundernd-e Tatsache
a.NOM.FEM 1SG.ACC puzzle.PRESP-NOM.FEM fact

b. *eine wundernd-e Tatsache
a.NOM.FEM puzzle.PRESP-NOM.FEM fact

[55] Lübbe (2013) argues that these forms are not idiosyncratic as often assumed but follow a pattern, which depends on the semantic form of the underlying verb: such constructions can be built if the verb has a lexical form which is like a genuine adjective in that it does not contain any temporal or spatial structure, i.e. it must not denote an event, as Lübbe points out. However, it is not clear why stative SubjExp, and some stative ObjExp verbs (i.e. the √PSYCH verbs) but also the dative Class III ObjExp verbs are infelicitous in such constructions, if this is the requirement, since these verbs would all fit the criteria.

c. *die Tatsache war wundernd[56]
the.NOM fact was puzzling

(253) a. *eine mich freuend-e Tätigkeit
a.NOM.FEM 1SG.ACC puzzle.PRESP-NOM.FEM activity

b. eine mich er-freuend-e Tätigkeit
a.NOM.FEM 1SG.ACC PREFIX-puzzle.PRESP-NOM.FEM activity

(254) a. *ein gefallend-er Film
a appeal.to.PRESP-NOM.MASK film

b. *der Film war gefallend
he.NOM.MASK film was appeal.to.PRESP

Yet adjectives formed with the same Root as the stative ObjExp verbs exist, which are usually ambiguous between an 'evaluative', and a 'psych' reading in the sense of Ramchand (2018) as (255) shows. These adjectives are formed in a different way following the standard adjective formation on the basis of affixation as demonstrated in (256).

(255) a. Das ist eine ärger-liche Sache. (evaluative adjective)
this is a annoy-SUFFIX thing
'This is an annoying thing'

b. Ich war ärger-lich. (psych adjective)
1.SG.NOM was annoy-SUFFIX
'I was annoyed/angry.'

(256) a. ärger-n – ärger-lich
annoy-INF annoy-SUFFIX

b. wunder-n – wunder-lich
puzzle-INF puzzle-SUFFIX

These facts shed light on two interesting aspects: firstly, again stative ObjExp verbs do not pattern like standard accusative objects, and nonstative ObjExp verbs. Secondly, the fact that the adjectives built on the basis of the stative √PSYCH-Roots are ambiguous between a 'psych' and an 'evaluative' reading suggests that the stative ObjExp verbs are also causative verbs, even though they are stative. Since only ObjExp verbs participate in the adjectival alternation, while

[56] This piece of evidence is all the more revealing because the adjective *wunderlich*, formed from the same Root (see 256b), in principle can/could express the same meaning, since it is/was ambiguous between the psych adjective, and the evaluative adjective reading (as the 19th century Grimm & Grimm's dictionary shows, accessed via DWDS.de). However, *wunderlich* is no longer commonly used with the psych adjective reading (see *Wörterbuch der deutschen Gegenwartssprache* (WDG) 'Dictionary of Contemporary German', accessed via DWDS.de) – as opposed to the psych adjective reading of *ärgerlich* (see 256a) – nevertheless, the form *wundernd* is not produced, even though it should not be blocked any more. On the contrary, even though the adjective form *verwunderlich* also exists for the PREFIX-√PSYCH version, the participle adjective *verwundernd* is produced as well.

SubjExp verbs do not, Ramchand (2018) argues that the causative meaning of ObjExp verbs is crucial for the formation of the two types of different adjectives on the basis of the participle forms, especially for the derivation of the 'evaluative' adjective form. While adjective formation on the basis of the past participle is very common in many language (e.g. in German, as 4.4.3 shows), the formation of adjectives on the basis of the present participle is the interesting case (see Brekke 1988; Meltzer-Asscher 2011; Lübbe 2013). Abstracting from the details of the account, Ramchand (2018) points out that it is the causative part of their meaning (see 257), which allows ObjExp verbs to form both types of adjectives, especially the evaluative adjective (by generically binding off one of the two arguments as depicted in (257b)).

(257) a. [[frighten]] = λyλxλs [Fright(s) & EXPERIENCER (s,x) & CAUSE (s,y)]
b. [[frightening]] = λyλsGENx[Fright(s) & EXPERIENCER (s,x) & STIMULUS[57] (s,y)]
c. [[frightened]] = λxλs∃y[Fright(s) & EXPERIENCER (s,x) & STIMULUS (s,y)]
(Ramchand 2018:18, (41); 15, (33b), (34b))

She further claims that the same principle also explains the behaviour of adjectives like *curious,* which are also ambiguous between an 'evaluative' and an 'psych' reading. If this account is on the right track, this would give considerable credibility to the argument that stative ObjExp verbs like *ärger-n* 'anger/annoy-INF' must contain a causative meaning as well since the adjective formed on the basis of them *ärger-lich* 'anger/annoy-SUFFIX' has both readings, i.e. it is not restricted to the usual meaning equivalent to the past participle but can also have the 'evaluative' meaning equivalent to the present participle of ObjExp verbs, which crucially depends on the causative meaning. Consequently, since neither the Root nor the suffix *-lich* can contribute the causative meaning, it has to come from additional structure of the stative ObjExp verb on top of which the adjective is formed (see 5.2.3.3 for more on that).

4.4.5. Topicalization with the past participle

Topicalization of the direct object with the past participle of the lexical verb to the clause-initial position in a V2-sentence, the so-called *Vorfeld* 'prefield', or Spec,CP, is generally possible in German (see e.g. Bayer 2004). In approaches which assume a hierarchical structure of the

[57] STIMULUS and CAUSE are used synonymously here: Ramchand (2018) first labels this part of the meaning of ObjExp verbs STIMULUS, but changes the label in the course of the paper into CAUSE as in (257a).

German verb phrase/sentence (see e.g. Fanselow 1987), this is one of the tests to distinguish subjects from objects (see e.g. Grewendorf 1989), since the direct object is taken to form a maximal constituent with the lexical verb, which can always be topicalized. However, the situation seems to be more complex[58] (see Haider 1993, 2010). The evidence of this diagnostic is therefore to be taken with more than a grain of salt. However, independent of the fundamentally different positions taken on this theoretical issue, the important observation in the context of this study is that, once again, the experiencer argument of stative ObjExp verbs does not behave as excepted if it was a canonical direct accusative object. Contrary to canonical accusative objects, experiencer arguments in stative ObjExp verbs are rather unacceptable when they are topicalized with the past participle of the main verb (see 259b/261b). This becomes especially clear in direct comparison of the stative ObjExp version of *ärgern* 'annoy' with the dynamic version of *ärgern*, which is an activity with an agent subject, and a regular direct accusative object as has been shown in 4.1 (see also DUDEN Die Grammatik 2009: 547). The latter (see 260c) is absolutely fine just as the standard direct object in (258c), while the stative ObjExp is clearly worse, if grammatical at all (however, there is a fair amount of inter- and intra-speaker variation on sentences like (259c/261)).

(258) a. …dass der Schüler die Bücher gelesen hat.
that the.NOM pupil the.ACC books read has

b. *[Der Schüler gelesen] hat die Bücher.
the.NOM pupil read has the.ACC books

c. [Die Bücher gelesen] hat der Schüler.
the.ACC books read has the.NOM pupil

(259) a. …dass der Stau den Mann geärgert hat.
that the.NOM traffic.jam the.ACC man annoyed has

b. *[Der Stau geärgert] hat den Mann.
the.NOM traffic.jam annoyed has the.ACC man

[58] Haider (1993, *et seq.*) argues on the basis of his assumption that German as a V2-language does not have functional verbal projections such as *v* (Chomsky 1995), or T on top of the VP that basically all constituents can be fronted equally together with the main verb, since they are all included in a 'flat VP' as opposed to a hierarchical structure in languages like English. Existing differences in acceptability/markedness of certain topicalized structures result from certain conditions on the presence of other constituents in the 'middlefield' (see fn. 77) of the sentence, according to Haider (1993: 152-156). While this general question has been one of the biggest controversies in the German syntax debate for decades (including controversies over judgements and acceptability of certain constructions, see Webelhuth (1985), Fanselow (1987), *inter alia* for different positions), and is therefore clearly beyond the scope of this study, the following observation is important for our purpose here: even though Haider certainly has a point with respect to the condition on remaining constituents in the middlefield, if this factor is controlled for like in the example sentences here, there is still a clear contrast between canonical direct objects as in (258c/260c), and the stative ObjExp verbs. While the more general explanation of this complex of issues has to be left to further research, the observation as such seems to be interesting, and adds to the overall picture that experiencer arguments in stative ObjExp verbs do not pattern like canonical direct accusative objects.

c. *[/??] [Den Mann geärgert] hat der Stau.
the.ACC man annoyed has the.NOM traffic.jam

(260) a. … dass die Schülerin den Lehrer ärgert hat.
that the.NOM.FEM pupil the.ACC teacher annoyed has

b. *[Die Schülerin geärgert] hat den Lehrer.
the.NOM.FEM pupil annoyed has the.ACC teacher

c. [Den Lehrer geärgert] hat die Schülerin.
the.ACC teacher annoyed has the.NOM.FEM pupil

(261) a. …dass das Angebot die Kunden gefreut hat.
that the.NOM offer the.ACC customers delighted has

b. *[/??][Die Kunden gefreut] hat das Angebot.
the.ACC customers delighted has the.NOM offer

c. [Die Kunden er-freut] hat das Angebot
the.ACC customers PREFIX-delighted has the.NOM offer

Bayer (2004) concludes on the basis of the behaviour of (stative) experiencer objects[59] in the same topicalization test that "the non-nominative experiencer may be an external, i.e., 'V-distant' argument in the same way as a nominative subject" (2004: 60).
Consequently, one can at least draw the conclusion that this diagnostic also reinforces that experiencer arguments of stative ObjExp verbs do not behave like canonical internal direct objects because in this case they should straightforwardly allow for topicalization together with the main verb, which they clearly do not do.

4.4.6. 'Topic deletability'/ 'Pronoun zap'

The empirical picture with respect to a sixth diagnostic is much clearer tough. Experiencer objects of stative ObjExp verbs do no pattern with direct objects in another way either: contrary to canonical direct object accusatives, experiencer arguments in stative ObjExp verbs are not eligible for a phenomenon known under different labels such as 'pronoun zap', 'topic drop', or 'topic deletion' (see Bayer, Bader & Meng 2001). 'Topic drop' is only possible if the pronominal topic is a standard accusative direct object as in (262a)[60]. In this case, it can be elided in informal spoken German (see Fanselow 1992; Grewendorf 1995; McFadden 2004). With respect to this construction, experiencers of stative ObjExp verbs as in (263) display the

[59] Bayer (2004) does not make the aspectual distinction argued for here, but all the examples he bases his conclusions upon are in fact from the group of stative ObjExp verbs.
[60] Nominative subjects can also undergo 'topic drop' (see Grewendorf 1995: 1312-1313).

same pattern as dative indirect objects (see 262b/c), which do not undergo topic drop (see Grewendorf 1995: 1312-1313; McFadden 2004).

(262) Hast du den Fritz gesehen?
'Have you seen Fritz?'

a. (Den) kenn' ich nicht
DEMONST.ACC know I not

b. (*Dem) hab' ich grad mit seiner Arbeit geholfen.
DEMONST.DAT have 1.SG.NOM just with his paper helped
'I just helped him with his paper.'

c. (*Dem) hab' ich grad eine Aufgabe gegeben
DEMONST.DAT have 1.SG.NOM just an assignment given
'I just gave him an assignment.'

(McFadden 2004: 124, (133), (134), glosses slightly adjusted)

(263) Was ist mit Peter?
what is with Peter
'What about Peter?'

a. Habe ich schon lange nicht mehr gesehen.
have I for quite a while not seen
'I haven't seen (him) for quite a while.'

b. *Hat dein Verhalten gestern sehr geärgert.
has your behavior$_{NOM}$ yesterday very much annoyed
'Yesterday, your behavior has very much annoyed (him).'

(Grewendorf 1989: 185, (23)[61])

Sternefeld (1985: 407) explicitly points out that only direct objects are felicitous in this construction 'but not indirect objects (be they genitive, dative, or accusative)'. For him this test therefore shows that the accusative of experiencer objects in general cannot be structural but has to be lexically designated by Case Theory. However, it is not the case that this holds for experiencer arguments per se, since the nonstative ObjExp verbs behave rather like canonical directs objects with respect to 'topic deletability' as (264) demonstrates. Once again, the aspectual distinction turns out to be crucial since accusative experiencer arguments do not behave in a homogeneous way with respect to 'topic drop'.

[61] Please note that Grewendorf (1989) agrees with the empirical judgement for this construction, but he argues explicitly against the kind of analysis that will be proposed here (see 5.2.2 for further discussion).

(264) Was ist mit Peter?
what is with Peter
'What about Peter?'

a. (Den) hab' ich gestern sehr ver-ärgert.
DEMONT.ACC have I yesterday very PREFIX-annoyed
'Yesterday, I very much annoyed him.'

b. (Den) hab' ich gestern wohl enttäuscht.
DEMONT.ACC have I yesterday arguably PREFIX-annoyed
'Yesterday, I arguably disappointed him.'

To summarize, the diagnostic of 'pronoun zap'/'topic deletability' provides clear evidence that the stative accusative experiencer objects cannot be standard accusative direct objects but patterns like an indirect dative/goal arguments.

4.4.7. Object drop

Moreover, stative Class II ObjExp verbs show a pattern that is again clearly different from all other Class II ObjExp verbs with respect to a seventh empirical pattern, which has been discussed in the literature under the label of 'object drop', or 'null object construction' (see Rizzi 1986). As Grewendorf (1995) points out, data like (265-266) show that object drop is a productive syntactic phenomenon in German (see also Haider 2013: 175). If the direct object can be understood as generic in the sense of 'people', or 'one' it can be dropped in certain constructions (see also Levin 1993), among them causative change-of-state verbs as in (266).

(265) a. Das schöne Wetter lädt _____ ein zu bleiben.
the beautiful weather invites to stay

b. Ein gutes Gespräch kann _____ wieder miteinander versöhnen.
a good conversation can again with-each-other reconcile

(266) a. Diese Musik macht die Leute froh.
this music makes the people glad

b. Diese Musik macht _____ froh.
this music makes glad

(Grewendorf 1995: 1313, (19), (20), (22))

Grafmiller (2013: 50-52) argues on the basis of the English data he presents that the behaviour of ObjExp verbs in 'null object constructions' constitutes another potential problem for oblique

accounts: experiencer arguments in English are available for 'object drop'[62], which, according to Rizzi (1986), involves affected arguments that are typically direct objects. This construction (like resultatives) is not available to oblique, or prepositional objects. Consequently, if experiencers are not direct objects they should not undergo this alternation. And this is exactly what we see for German experiencer arguments in ***stative*** Class II ObjExp verbs: these are not felicitous in 'object drop' constructions as (268/269b/270b) shows. This distinguishes them from ***all other*** Class II ObjExp verbs, which can occur in this construction dropping their experiencer arguments, and productively do so as the representative examples in (267-271) illustrate. Interestingly, in this case, the stative accusative Class II ObjExp verbs do not pattern with the stative dative Class III ObjExp which are available for 'object drop' (see 272) like their English counterparts[63].

(267) a. Wenn Söder wenig ändert, enttäuscht er auch nicht. (Peter Essig, welt.de)
if Söder little changes disappoints he also not
'If Söder changes little, he won't disappoint.'

b. Die Reaktion der Kommunen überrascht. (Christian Hunziker, welt.de)
the reaction the.GEN municipalities surprises
'The reaction of the municipalities surprises.'

c. Der neue Mazda beeindruckt im Test.
the new Mazda impresses in.the test

d. Das überrascht, schließlich kam bei der DFB-Analyse… (Oliver Müller, welt.de)
this surprises after all came in the DFB-analysis…

(268) a. *Wenn Söder wenig ändert, freut er auch nicht.
if Söder little changes delights he also not

b. Söders Änderungen freuen *(mich).
Söder's changes delight me
'Söder's changes make me happy.'

c. Die Reaktion der Kommunen ärgert *(alle).
the reaction the.GEN municipalities annoys all
'The reaction of the municipalities annoys everyone.'

[62] Examples he collected are, e.g.:

(i) Can a culture nourish if it doesn't have room to agitate, irritate, unsettle?
(ii) Oprah Winfrey continues to amaze (COCA)
(iii) It astonished, puzzled, it even aroused laughter,… (COCA)
(Grafmiller 2013: 50, (2.18a-c))

[63] An interesting fact Grafmiller observes is that Class III dative ObjExp like *appeal to* allow null objects in English such as, for instance in (i):

(i) The idea of uniting families appealed. (G)
(Grafmiller 2013: 51, (2.20))

d. Solche Fragen freuen *(einen/alle).
such questions delight one/all

(269) a. Brückenabbau ver-ärgert weiterhin (Frank Klemmer, rundschau-online.de)
bridge.deconstruction PREFIX-annoys still
'The deconstruction of bridge continues to annoy (all).'

b. *Brückenabbau ärgert weiterhin
deconstructing.bridges annoys still

(270) a. Hertha BSC Null Kontertore – das verwundert (Paul Linke, berliner-zeitung.de)
Hertha BSC zero breakaway.goals this PREFIX.puzzles
'Hertha BSC: zero goals from counterattacks – that's puzzling.'

b. *Hertha BSC Null Kontertore – das wundert.
Hertha BSC zero breakaway.goals this puzzles

(271) a. Nicht zu sehr verwundern dürfte, dass die in Bayern befragten Bürger in
not too much PREFIX-puzzle might that…
ihrem Ministerpräsidenten – wenn auch nur knapp – den besseren Kanzler als in
Merkel sehen (Karsten Kammholz, derwesten.de)
'It might not be too puzzling that…'

b. Dolph Ziggler verwundert weiterhin (spox.com)
Dolph Ziggler PREFIX-puzzles still
'Dolph Ziggler continues to surprise.'

c. Das verwundert etwas, schließlich übernimmt er die technische Basis
this PREFIX-puzzles something… (sueddeutsche.de)

(272) a. Das gefällt.
this appeals.to

b. So etwas imponiert.
such something impresses

4.4.8. 'Split stimuli'

It has been observed both cross-linguistically (see Bennis 2004; Klimek & Rozwadowska 2004) as well as for German (see Rapp 1997, 2001a) that it is one of the characteristics of change-of-state ObjExp that they can appear in constructions which Engelberg (2015) calls 'split stimuli'. (273-274) show examples of such constructions, in which the non-experiencer stimulus argument causing, or triggering the emotional state in the experiencer is realized as a 'split constituent': while the element in the subject position names a causing individual, the *with*-PP specifies the details of the causing stimulus/process by specifying the subject matter.

(273) a. Dat gedrag amuseert/ontroert/verbaast/interesseert/… mij. (Dutch)
that behaviour amuses/moves/astonishes/interest/… me

b. Jan amuseert/ontroert/verbaast/interesseert/… mij met dat gedrag.
John amuses/moves/astonishes/interest/… me with that behaviour
(Bennis 2004: 105; (41), (42))

(274) a. Janek zdumiał Marysię dziwnym zachowaniem . (Polish)
'John amazed Mary (with-default) his strange behaviour-Instr.'

b. Dziwne zachowanie Janka zdumiało Marysię.
'John's strange behaviour amazed Mary.'
(Klimek & Rozwadowska 2004: 66, (19a-b))

The German examples in (275-286) show that **non**stative ObjExp verbs can appear in a number of different constructions (see Engelberg 2015 for a more detailed corpus study), however, with differences: a split stimulus reading is only possible, if the first element names an individual (see 275b/276b), it is not possible if the causer subject already names the subject matter as in (275c-d/276c-d). The agentive reading, which is possible with some nonstative ObjExp verbs, is worse, if acceptable at all, with split stimuli.

(275) a. Paul ver-ärgerte Anna (absichtlich).
Paul PREFIX-annoyed Anna deliberately

b. Paul ver-ärgerte Anna (mit seinen/ durch seine Unpünktlichkeit).
Paul PREFIX-annoyed Anna (with his / through his unpunctuality)

c. Pauls Unpünktlichkeit ver-ärgerten Anna (*mit/ durch…).
Paul's unpunctuality PREFIX-annoyed Anna with/ through…

d. Die Fragen ver-ärgerten Anna (*mit/ durch…).
the questions PREFIX-annoyed Anna with/ through

e. Facebook-Chef enttäuscht mit Aussagen vor EU-Parlament (dpa)
Facebook-boss disappoints with statements before EU parliament

(276) a. Paul erstaunte Anna.
Paul amazed Anna

b. Paul erstaunte Anna mit seiner/ durch seiner Frechheit/seine Taten.
Paul amazed Anna with his / through his brassiness/ his deeds

c. Pauls Frechheit/ Tat erstaunte Anna (*mit/ durch…)
Paul's brassiness/ deed amazed Anna with/ through…

d. Diese Frechheit erstaunte Anna (*mit/ durch…)
this brassiness amazed Anna with/ through

e. Die Zweite Liga fasziniert vor dem 30. Spieltag durch eine nie da
the second divison fascinates before the 30. matchday through a never there
gewesene Tabellensituation (Stephan Flohr, welt.de)
been (table.)standing

It is important to highlight that these *mit-/durch*-PPs are not instrument-PPs here, even though they look like typical instances of instrument-PPs in German, as Rapp (1997: 71-73) points out: a first indication that these PPs are not instruments is the fact that either *mit* 'with', or *durch* 'through', the canonical causer preposition in German, can be used. In instrument-PPs only *mit* is felicitous. Such *mit-/durch*-PPs which can typically be used with verbs expressing a causative change-of-state specify the process denoted by the verb. The central difference to a PP-instrument is revealed by the fact that in those cases in which the *mit*-PP (or *durch*-PP) specifies the causing processes denoted by the verb (see 277), it can always be paraphrased by a modal clause (see 278) as opposed to instrument-PPs (see 279) expressing an instrument used for performing an action (see 280), which do not allow for such a paraphrase.

(277) a. Er ermordete seine Frau durch einen Schlag/mit einem Schlag auf den Kopf.
he murdered his wife through a blow with a blow on the head

b. Er spaltete das Holz durch einen kräftigen Schlag/ mit einem kräftigen Schlag.
he rived the wood through a forceful knock with a forceful knock

c. Er zeichnete die Männchen durch kräftige Striche/mit kräftigen Strichen.
he drew the little.men through strong lines with strong lines

(278) a. Er ermorderte seine Frau, indem er ihr auf den Kopf schlug.
'He murdered his wife by hitting her on her head.'

b. Er spaltete das Holz, indem er kräftig darauf schlug.
'He rived the wood by hitting it forcefully.'

c. Er zeichnete Männchen, indem er kräftige Striche machte.
'He drew the little men by making strong lines.'

(279) a. Er fährt mit dem/ *durch das Auto.
he drives with the/ through the car

b. Er erstach sie mit dem/ *durch das Messer.
he stabbed her with the/ through the knife

c. Er malte Männchen mit der/ *durch die Feder.
he painted little.men with the/ through the feather

(280) a. *Er fährt, indem er etwas mit dem Auto tut.
'He drives by doing something with the car.'

b. *Er erstach sie, indem er das Messer benutzt.
'he stabbed her by using the knife.'

c. *Er malte Männchen, indem er die Feder benutzt.
'he painted/drew little men by using the feather.'

(Rapp 1997: 71-72, (21)-(23); ex. (279), and all translations/glosses are mine)

Interestingly, such *mit-/durch*-PPs are only possible with the nonstative ObjExp verbs, the stative Class II ObjExp cannot be used in split stimuli constructions as (281) demonstrates. It is worth pointing out that the ungrammaticality of stative ObjExp verbs cannot merely be deduced from the fact that these verbs are generally less acceptable with expressions denoting human individuals as subjects as (281a/c) proves, which is fine without the *mit-/durch*-PP. The incompatibility of the stative Class II ObjExp verbs with split stimuli can rather be explained by the fact that the subject of these verbs always has to be the object of emotion, i.e. it always has to be interpreted as propositional denoting the subject matter of the emotion, even if it names an individual. Consequently, since the subject matter is already mandatorily expressed, it cannot be added, or specified any more, as in the (279c-d/280c-d) above.

(281) a. Paul wunderte Anna *mit seinen/ durch seine Fragen.
Paul puzzles Anna with his/ through his questions

b. Das Geschenk freute Anna *mit seiner/ durch seine Schönheit.
the present delighted Anna with its/ through its beauty

c. Paul ärgerte Anna *mit seinem/ durch seinen Haarschnitt.
Paul annoyed Anna with his through his haircut

Combining these observations with Rapp's (1997) general description that such *mit-/durch*-PPs specify 'the first process' of a causative change-of-state verb, i.e. the causing subevent, this adds further evidence to the findings that the stative ObjExp verbs differ systematically, and structurally from all other ObjExp verbs. As these data suggest, they do not have such a causing event bringing about a change of state, which could be modified by *mit-/durch*-PPs in the way just discussed. This follows if one assumes that the stative ObjExp verbs denote a different sequence of eventualities (see chapter 5.2.3.3 for more details).

To sum up, with respect to 'split stimuli', which seem to depend on the predicate expressing a causative change-of-state relation, once again a clear distinction can be observed: while ***all*** Class II ObjExp verbs license 'split stimuli' constructions, the **stative** √PSYCH verbs are infelicitous with such 'split stimuli', another clear contrast that sets them apart.

4.4.9. Nominalizations

Finally, Bayer (2004) observes a contrast between experiencer arguments in ObjExp verbs, and internal direct objects with respect to nominalizations: while the accusative of canonical internal objects either converts to a genitive or is put in a *von*-PP (see 282), accusative-marked experiencer objects do not conform to this rule, as he points out based on the example in (283).

(282) a. Die Polizei sucht die Kinder.
the police.NOM seeks the children.ACC
'The police is searching for the children.'

b. Das Suchen der Kinder (durch die Polizei)
the searching the children.GEN by the police

c. Das Suchen von den Kindern (durch die Polizei)
the searching of the children.DAT by the police

(283) a. Den Arzt ekelt.
The doctor.ACC disgusts
'The doctor is disgusted.'

b. *Das Eklen des Arztes.
the disgust the doctor.GEN
'The disgust of the doctor.'

(Bayer 2004: 59, (25), (26))

On the basis of these differences, Bayer (2004: 59) concludes that "the experiencer is not an object" (and "rather behaves like an external argument"). Bayer does not make the distinction between stative and nonstative ObjExp verbs argued for here, but all his examples contain stative ObjExp verbs only. Nevertheless, he makes his claims for all accusative experiencer arguments in general. However, it can be shown that his conclusion only holds for ***stative*** ObjExp verbs, which, indeed, do not behave like accusative internal objects, as he points. Nonstative ObjExp verbs, on the other hand, behave like canonical internal arguments as (284) illustrates, which shows the same pattern as (282) contrary to the stative ObjExp verbs in (285):

(284) a. Die Polizei ver-ärgert die Kinder.
the.nom police PREFIX-annoys the.ACC children
'The police is annoying/annoys the children.'

b. Das Verärgern der Kinder (durch die Polizei)
the PREFIX-annoying the.GEN children through the police

c. Das Verärgern von (den) Kindern (durch die Polizei)
the PREFIX-annoying of (the) children.DAT (through the police)

(285) a. Die Polizei wundert die Kinder.
the.NOM police puzzles the.ACC children
'The police puzzles the children.'

b. *Das Wundern der Kinder durch die Polizei
the puzzling the.GEN children through the police

c. *Das Wundern von Kindern durch die Polizei
the puzzling the.GEN children through the police

In fact, the behaviour of the stative ObjExp verbs in (285) again resembles the behaviour of indirect objects, and inherent datives which cannot be mapped to the genitive that appears with deverbal nominalizations (see Maling 2001; McFadden 2004) as opposed to direct objects.

4.4.10. Summary

The discussion of the ten grammatical phenomena in this section has shown that the event structure differences within the group of Class II ObjExp verbs detected in section 4.3 correlate with a number of other empirical differences in the syntactic behaviour of stative Class II ObjExp verbs as opposed to all other Class II ObjExp verbs. While the experiencer object in nonstative Class II ObjExp verbs usually behaves like a canonical direct accusative object, which is in accordance with Grafmiller's (2013) findings for English, experiencer arguments in stative Class II ObjExp verbs do not behave like canonical accusative direct objects, even though their accusative marking makes them look like them. Their different empirical behaviour has been observed with respect to some of the phenomena before (see Grewendorf 1989 for passive, and topic deletability), but has neither been systematically discussed, nor related to the event structure difference of these verbs yet. Usually claims based on one or the other observation are claimed to be true for all experiencer arguments alike (see Bayer 2004). Wegener (1999, 2001), for instance, mostly uses examples from the group of stative Class II ObjExp verbs to argue for her claims that ***all*** Class II ObjExp verbs do not form verbal passives. This, however, is clearly wrong as has been shown. Rothmayr (2009), on the other hand, uses *ärgern* 'annoy' in its stative use to show that ***all*** Class II ObjExp are basically statives, which exhibit a stative–eventive ambiguity, which cannot be correct either as the discussion of event structure properties in the previous sections has shown. It is therefore crucial to bring the two observations together to get to further insights: the diverse behaviour of ObjExp verbs becomes less arbitrary, and more systematic once it is seen in the light of the aspectual differences. As summarized in TABLE 9, the phenomena discussed in this section clearly show that ***stative*** Class II ObjExp verbs pattern differently from all other Class II ObjExp verbs, but show many similarities to stative Class III dative ObjExp verbs. Importantly, this means that contrary to Grafmiller's (2013) findings for English, ***some*** experiencer arguments in German display 'oblique-like' behaviour with respect to a number of syntactic diagnostics.

The results of this section clearly lead to two conclusions: firstly, ObjExp verbs are not a homogeneous group, and, secondly, crucial distinctions have to be made between different forms based on their aspectual properties, especially between stative ObjExp verbs on the one hand, and nonstative ObjExp verbs on the other hand.

TABLE 9: Summary: different empirical properties of stative vs. nonstative ObjExp verbs

	Nonstative		**Stative**	
	Canonical direct ACC obj (of COS verbs)	**PREFIX√PSYCH Class II** ACC ObjExp	**√PSYCH Class II** ACC ObjExp	**Class III** DAT ObjExp
agentive reading	yes	yes	**no**	**no**
verbal passives	yes	yes	**no**	**no**
adjectival passives	yes	yes	**no**	**no**
attributive use of the **past participle**	yes	yes	**no**	**no**
adjectival use of the **present participle**		yes	**no**	**no**
topicalization with the **past participle**	yes	yes	**no**	**no**
topic deletability	yes	yes	**no**	**no**
object drop	yes	yes	no	yes
'split stimuli'	yes	yes	no	
nominalizations	like direct object accusative		**not** like direct object ACC	
RS-interpretation of *for* adverbials	yes	yes	**no**	**no**
***-ung* nominalizations**	yes	yes	**no**	**no**
***in*-adverbials**	yes	yes	**no**	**no**
durative adverbials	iterative only	iterative only	**yes**	**yes**

4.5. Summary of the empirical analysis

The empirical analysis of German psych verbs in this chapter has shown that while there are clear differences with respect to agentivity restrictions on the subjects of ObjExp verbs, (this difference in) agentivity is not enough to account for the diverse behaviour of ObjExp verbs, since many phenomena cross-cut the '±agentive' versus '–agentive' distinction, and cannot be explained by it. Event structure differences turned out to be crucial, since almost all phenomena observed in the context of the diverse behaviour of ObjExp verbs are correlated with these aspectual differences: the psych causative alternation as well as phenomena from adjectival passivization to 'topic drop', 'split stimuli', and others. A further clear result of the empirical analysis is that all diagnostics unanimously show that German ObjExp verbs are not a

homogeneous group, neither with respect to agentivity, and their aspectual properties nor with respect to the other grammatical phenomena discussed here, including passives. A clear contrast can be observed for all the diagnostics: ObjExp verbs fall into two clearly distinct groups based on their behaviour: nonstative ObjExp verbs pattern like change-of-state verbs, and their 'experiencer' arguments like canonical direct objects, whereas stative Class II √PSYCH ObjExp verbs clearly differ from that, their experiencer arguments do not behave like direct objects but rather like datives, even though they are also marked with accusative.

The results of the empirical analysis thus confirm Klein & Kutscher's (2005) assessment of the diverse properties ObjExp verbs show in many empirical domains, and their claim that these verbs are therefore too diverse to be accounted for in a uniform way. However, additional diagnostics discussed here, and especially relating them to the aspectual properties of ObjExp verbs has also shown that their claim has to be restricted in an important way: psych verbs are only 'too diverse to be accounted for' if they are assumed to constitute one homogeneous group of verbs with coherent properties, which can all be explained under one analysis shared by all these verbs. On the contrary, clear patterns of different groups of 'psych verbs' can be observed. If the different readings, or groups of verbs are separated appropriately, regular grammatical principles conditioning these forms become visible.

Consequently, taking all that into consideration with respect to the evaluation of the theoretical analyses proposed for ObjExp verbs, it can be concluded that an approach like Landau's (2010), or Arad's (1998a, 1998b, 2002), which assumes that the key to a proper analysis of these verbs lies in the aspectual distinctions which separate different readings, or groups of Class II ObjExp verbs is needed to account for the German data since it is impossible to account for all the different empirical patterns observed here under an approach treating Class II ObjExp verbs as a homogeneous group of verbs. The result of the empirical analysis rather suggests that, in fact, ObjExp verbs do not constitute one ('special') class of verbs but fall into different classes of verbs with rather well-known properties. How to represent these observation about the different readings or forms is the challenge for the theoretical analysis in chapter 5.

The empirical observations about √PSYCH verbs and PREFIX-√PSYCH verbs constitute a particular argument in favour of a decompositional Distributed Morphology approach like Arad's (2002) because they show that the different (stative, and eventive) readings of ObjExp are indeed distinguished on the basis of different functional verbal material involved, in this case (with the spell-out of) the prefixes. These differences cannot be reduced to differences in the individual speaker's knowledge about the emotion involve (as claimed by Grafmiller 2013), since the √PSYCH verbs and PREFIX-√PSYCH verbs express the same basic emotion, which is

contributed by the lexical meaning of the same Root they have in common. The different readings, and the grammatical differences, which are related to these, clearly depend on the additional functional structure involved as the comparison of the different properties of √PSYCH verbs and PREFIX-√PSYCH verbs has demonstrated. It is not the case – as the competing lexicalist analyses would assume (see Landau 2010: 130) – that (all) lexical items freely alternate between the readings in German, but the different readings are conditioned by the (morpho)syntactic form of the verb, i.e. the syntactic structures the same Root is merged with. Therefore, German ObjExp verbs cannot be unified under an approach based on a common lexical semantic structure all ObjExp verbs are supposed to share (see e.g. Rothmayr 2009; Rapp 2001a), since their empirical properties are too diverse and too different from each other so that they cannot be captured in this way (see also Möller 2015: 103 for the same conclusion). To sum up, and set the objectives for the theoretical analysis, the empirical observations which have to be accounted for by any analysis of German psych verbs are the following:

i) stative SubjExp verbs freely form verbal passives, while stative ObjExp verbs do not passivize at all (which holds cross-linguistically as Landau (2010) reports);
ii) some nonstative ObjExp verbs form verbal passives, while others do not, some nonstative ObjExp verbs can have agentive readings, while others show restrictions on the agentive interpretation of their subjects;
iii) all ObjExp verbs – except for the stative √PSYCH verbs, and the dative Class III ObjExp verbs – form adjectival passives in a completely unrestricted and regular way, which are target state passives;
iv) experiencer arguments in nonstative ObjExp verbs behave almost identical to canonical internal direct objects, while experiencer arguments in stative ObjExp verbs do not behave like direct objects but rather like datives (see TABLE 9);
v) for any Root-based approach: German √PSYCH Roots behave like ('manner') modifier Roots, not like (result) state Roots.

Furthermore, this also raises a theoretical question with respect to stative Class II ObjExp verbs: if these verbs are stative but, as opposed to SubjExp verbs like *love, hate, like*, etc., also causative as usually assumed under causativity approaches to the linking problem (see 2.1):

vi) what is the nature of these stative and causative Class II ObjExp verbs, and how can they be analysed?

Chapter 5 : Theoretical analysis of German psych verbs

As the examination of the empirical properties of German psych verbs has shown, there is a crucial aspectual distinction between exclusively stative ObjExp verbs like *wundern* 'puzzle'*, freuen* 'delight'*, ärgern* 'annoy/anger', etc., which lack a change of state, on the one hand, and all other 'nonstative' ObjExp verbs, which contain a change of state, on the other hand. While we will see that this dichotomy, and the term 'nonstative' might be considered in a way too coarse, the fundamental difference between the empirical properties of these two groups as shown in 4.4 cannot be denied. Consequently, every analysis of psych verbs has to be able to account for these empirical differences. Therefore, these differences (besides other cross-linguistic phenomena, which will be discussed in this chapter) can serve as a litmus test in order to evaluate the suggestions made for analyses of psych verbs in the literature. I will argue in this chapter that an analysis of ObjExp verbs which tries to represent these differences appropriately has to assume two different kinds of analyses, one for the nonstative verbs, and a different kind of analysis for the stative ObjExp verbs (see Pylkkänen 2000; Cheung & Larson 2014). This idea basically gives this chapter its structure. Most approaches have converged on the consensus that stative ObjExp verbs constitute the most problematic case in many respects for all different approaches independent of the framework and theoretical model they are couched in (see Grimshaw 1990; Blume 2000; Arad 2002; Primus 2006; Landau 2010, among others), while nonstative ObjExp verbs can be dealt with rather well. Therefore, the discussion in 5.1 dealing with the analysis of nonstative ObjExp verbs can be shorter since these verbs seems to be less controversial, and ways to analyse them have already been established in previous work. However, on the basis of the German data, one issue has to be raised, which is the variation we see within the group of 'nonstative' ObjExp verbs. While I will follow numerous accounts in the literature, which propose to analyse 'nonstative' ObjExp verbs on a par with standard change-of-state causatives, I will also argue that this is not enough to account for the variation we are confronted with in German, since there is a group of ObjExp verbs which differs in their behaviour both from the standard change-of-state causatives as well as from the stative √PSYCH verbs. To account for that, I propose to analyse these verbs on a par with another group of verbs with similar characteristics: transitive alternates of internally caused change-of-state verbs as recently described and analysed in Alexiadou (2014b).

The acid test for every account of psych verbs is how to deal with the stative ObjExp verb forms. Therefore, this constitutes the biggest part of the discussion in 5.2. To start with, the less controversial analysis of stative SubjExp verbs (5.2.1) as well as the stative dative Class III

verbs (5.2.2) will be discussed, not least since the dative ObjExp verbs form in many ways the basis for the analysis of the problematic stative Class II ObjExp verbs. The crucial observation from chapter 4 is that Class II ObjExp verbs are not as homogeneous a group as usually assumed but show important differences with respect to the event structure properties of their different forms or readings, which condition a number of other grammatical differences as we have seen in section 4.4. This observation is clearly in line with the two most influential proposals for analyses in the formal generative literature: Landau (2010), and Arad (1998a, 1998b, 2002). While they both share the insight that aspectual differences are crucial for the analysis of ObjExp verbs, they differ with respect to their central strategy of how to account for the different behaviour of stative and nonstative ObjExp verbs. These two approaches, which offer the most promising possibilities for an analysis of the empirical phenomena observed, will be reviewed and evaluated on the background of the empirical findings from German (and other languages) in 5.2.3.1, and 5.2.3.2. This discussion will show that both approaches face problems, and need some adjustments to account for a number of problematic issues, which have been recently raised in the debate on psych verbs. Consequently, the rest of chapter 5 will be concerned with the discussion of how to account for the empirical patterns observed in German (and beyond) in an analysis of the problematic stative Class II ObjExp verbs. In a nutshell, the proposal which will be developed is that these verbs are 'stative causative' verbs, which have a 'complex ergative' (Bennis 2004) structure. As such they seem to challenge many (decompositional) approaches to the verbal phrase, however, it will be shown that they can be accounted for under an approach like the one taken here, and that, in fact, the diverse behaviour of ObjExp presents particular case in point for a decompositional approach to argument structure, since such an approach is best equipped to deal with the observed empirical variability of these verbs.

5.1. Nonstative object experiencer verbs

The first section of this chapter is dedicated to the analysis of the ObjExp verbs forms which show a behaviour like standard change-of-state causatives in many of ten diagnostics discussed in chapter 4. The first subsection 5.1.1 will outline an analysis of verbs like *enttäuschen* 'disappoint', *verwundern* 'PREFIX.puzzle', and the verbs which participate in the psych causative alternation, such as *beruhigen* 'calm', as standard change-of-state causatives. All verbs which can be distinguished by their behaviour from the stative √PSYCH verbs have so far been referred to as 'nonstative' ObjExp verbs, which suggests that they form a more or less

homogeneous group. However, this has to be problematized in 5.1.2, since differences can also be observed within this group of verbs, and their empirical behaviour makes it necessary to discuss what kind of change of state these verbs actually contain. This will show that these verbs also split into two subgroups, which are both eventive change-of-state, or inchoative verbs. The behaviour they show is similar to the differences within another group of change-of-state verbs, which have been discussed recently: transitive alternates of internally caused change-of-state verbs. 5.1.3 will briefly summarize the properties, and the analysis of these verbs given in Alexiadou (2014b), since 5.1.4 argues for an analysis of the change-of-state ObjExp verbs on a par with transitive alternates of internally caused change-state-verbs.

5.1.1. Nonstative ObjExp verbs as change-of-state causatives

Many accounts in the literature propose to analyse eventive/agentive ObjExp verbs as standard change-of-state accomplishments, such as Alexiadou & Iordăchioaia (2014b) for Greek and Romanian (see 4.2.1), but also Grimshaw (1990), Iwata (1995), Pylkkänen (2000), Landau (2010), among others. The analysis of the eventive change-of-state psych verbs is rather uncontroversial, if one abstracts from minor details in the implementation. Based on the evidence from the discussion of the empirical patterns in chapter 4, such an analysis seems to be the appropriate one for the German nonstative ObjExp verbs as well, even though it is often rejected in literature on German ObjExp verbs[64]. The extensive discussion of the event structure properties, and the behaviour with respect to a number of grammatical diagnostics has shown that these nonstative ObjExp verbs are (i) complex bi-eventive change-of-state predicates, and (ii) pattern like canonical change-of-state predicates in a number of ways with respect to the phenomena discussed in 4.4. Just to briefly summarize the most important pieces of evidence (see 286): these verbs can be modified with telic *in*-adverbials as well as with adverbs such as *completely*, they have a complex event structure containing a change of state and a result state component, which can be modified by result state related *for*-adverbials, and they license the formation of *-ung* nominalizations (see Roßdeutscher & Kamp 2010). Besides, they form both verbal and adjectival passives, their past participle can be used attributively like with other

[64] Rapp (1997, 2001a), Härtl (2008), Möller (2015), and others, argue, mostly based on the evidence from adverbial modification by *in*-adverbials, that German ObjExp verbs are not telic, and, consequently, are not change-of-state accomplishment-like causatives. As the discussion in chapter 4 has shown, aspectual differences are crucial, and ObjExp verbs are not a homogeneous group. Therefore, the claims by these authors are correct, however, only for certain subgroups of ObjExp verbs. Yet the claims are usually made for all ObjExp verbs in general, even though they are only based on the behaviour of a rather small number of verbs in one or two tests, for which very often stative √PSYCH verbs, or the agentive activity version of *ärgern* 'annoy' are used. Consequently, this results in skewed generalizations, which do not reflect the whole empirical picture.

transitive change-of-state verbs as well as their present participle. They behave like standard NOM–ACC verbs in nominalizations of the infinitive: the accusative experiencer turns into a genitive or *von*-PP. Moreover, some verbs of these groups have been shown to constitute a subcase of the causative–anticausative alternation in case they have an alternating eventive SubjExp form.

(286) a. Das verärgerte die Zuschauer in wenigen Minuten vollständig.
this PREFIX.annoyed the spectators in a.few minutes completely

b. Das ver-wunderte ihn für zwei Stunden.
this PREFIX.puzzled him for two hours

c. Ver-wunder-ung – Enttäusch-ung – …
PREFIX-puzzle-$SUFFIX_{UNG}$ disappoint-$SUFFIX_{UNG}$

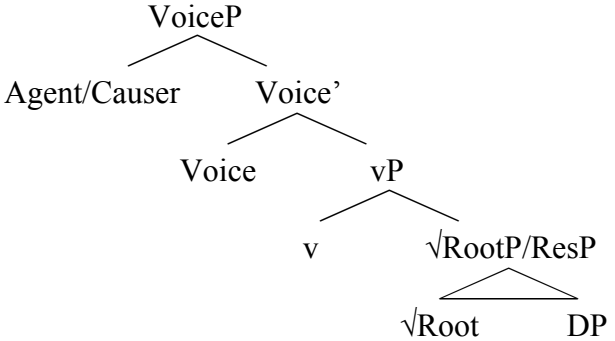
d. der verwunderte/ enttäuschte Mann
the PREFIX.puzzled/ disappointed man

e. eine verwundernde/ enttäuschende Tatsache
an PREFIX.puzzling/ disappointing fact

f. das Verärgern der Kinder/ von Kindern
the PREFIX-annoy.INF the.GEN children/ of children

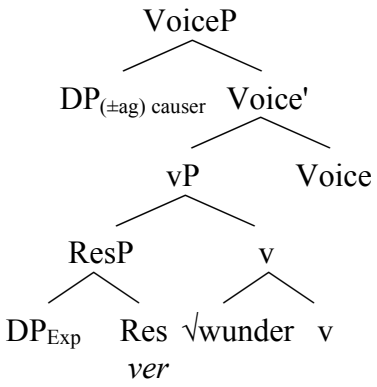
For all these reasons, these verbs are analysed on a par with standard change-of-state causatives. In the analysis, I follow the approach in Alexiadou et al. (2015) to decompose change-of-state verbs into three syntactic layers: Voice, v, and a √Root/ResultP (see 287). I assume that Voice introduces the external argument (following Kratzer 1996), while v introduces an event, and verbalizes the acategorial Root, which contributes the result state. I do not assume any labelled v heads in the syntax, but the combination of the v head and the result state contributed by √RootP/ResP is interpreted as a causative relation at the CI-interface (see Marantz 2009; Schäfer 2008; Wood 2015; and section 1.2).

(287) General structure of eventive telic change-of-state (ObjExp) verbs



An analysis along the lines in (287) can account for all the observed properties: since the syntactic structure of these ObjExp verbs contains a Voice layer, they can feed passivization under the Voice hypothesis, and license agent-oriented adverbs like *absichtlich* 'deliberately' inducing an agentive reading, since these are licensed by Voice (see Anagnostopoulou 2003a). Furthermore, this structure accounts for the fact that they are complex bi-eventive eventualities, and, thus, license *-ung* nominalizations, and result state related *for*-adverbials. Depending on the different kinds of Roots (e.g. √PSYCH, or de-adjectival verbs), some minor details of the structure may show a little variation for German ObjExp verbs like for other German non-psych prefix verbs, which, however, leads to the same consequences, and follows the same general principles as the structure in (287). Verbs have the structure as in (288), in which the result state component is contributed by the prefix. Like Marantz (2009), Embick (2009), and others, I assume that prefix, or particle in such verbs contributes the result state.

(288) Eventive change-of-state ObjExp verbs



Kratzer (2000) is certainly right in pointing out that such particles or prefixes usually do not contain any transparent meaning on their own any more, especially since the same morphological prefix forms often occur with different meanings in different contexts in German (see Fleischer & Barz 2012; Dewell 2011, 2015 on prefixes in German general). However, while it is right that the prefix alone would not be enough to convey this meaning, "[o]nce it is recognized that the objects interpreted are larger than an individual terminal" (Embick 2009: 19) the situation is different: following Alexiadou et al.'s (2015: 196-202) analysis of German non-psych prefix and particle verbs, I assume the prefix can contribute the result component by virtue of occupying a position in a ResP as a complement of v, i.e. that it acquires this meaning in the local context of the √PSYCH Root, which is in the position of a modifier to v as discussed above. Such an approach seems all the more plausible given the wide range of semantically different Root–PREFIX-Root verb pairs presented in the previous chapter, like e.g. *arbeit*(*en*)

'work'– *ver-arbeit*(*en*) 'process/manufacture', *rechn*(*en*) 'count' – *er-rechn*(*en*) 'calculate', etc., for which the prefix alternation with the atelic–telic verb pairs has the same effect in the context of the same syntactic structure as for the √PSYCH verbs: while the verb formed on the basis of the Root modifying v is atelic, the version with a prefix is telic (see 4.3.6 for more). Consequently, the result state really seems to be contributed by the prefix in the local context of such Roots (see also Haider 2013: 186).

Even though, this analysis is rather uncontroversial given the many similar suggestions made in the literature, a few differences are worth pointing out: firstly, it has to be mentioned that for Landau (2010) a structure like in (288) is only the structure for agentive ObjExp verbs, while the analysis here suggests that this is the structure for all eventive change-of-state ObjExp verbs, which do not show a restriction on verbal passives. In other words, this is also the structure for eventive nonagentive change-of-state ObjExp verbs that have verbal passives, and can have an agentive reading. While Landau leaves open how the aspectual properties he detects and the syntactic structures he describes interact, the suggestion here is explicit about that: it is the syntactic structure like in (288) which contains Voice that makes an agentive reading possible, not the other way around. A clear indication for that is the existence of verbal passives from nonagentive uses of these verbs in German (but also other languages (see e.g. Tenny 1998)). These show that it is possible to have a structure with an external argument, i.e. Voice, like in (287/288) without an agentive reading, since the ability to form verbal passives depends on the presence of Voice. Consequently, the fact that some ObjExp verbs do not show restrictions on the agentivity of their subjects is a consequence of these verbs having a syntactic structure which contains Voice. The agentive reading is not the prerequisite for passivization but results from the same source that makes passivization possible, i.e. an active Voice head with a [+D] feature, as discussed in more detail in section 4.1.

With respect to the discussion about German psych verbs the major claim (pace Rapp 2001a, 2001b; *inter alia*) is that German also has a group of eventive ObjExp verbs, which has been shown on the basis of standard event structure tests in chapter 4. Consequently, the claim that ***all*** ObjExp verbs are stative has to be rejected. Like Rothmayr (2009), I have shown that there is a crucial stative–eventive distinction within Class II ObjExp verbs, however, not within every lexical item (in a lexicalist sense), as the comparison in chapter 4 has shown, but this distinction is rather induced by syntactic structure. A clear indication of this is the fact that the stative–non-stative distinction is mediated by verbal morphology, the prefix–non-prefix forms, as discussed in 4.5. In other words, it is not the case that the lexical item *wundern* 'puzzle' is ambiguous between a stative and an eventive version, as suggested by Rothmayr (2009), but

the Root √wunder can form a stative ObjExp verb if it is inserted into the appropriate syntactic structure, while it can also yield an eventive ObjExp verb as in (288) if it contains an eventive structural layer, and is combined with a prefix contributing the additional element of resultativity needed for a change-of-state causative as for many other atelic non-psych verbs.

5.1.2. Differences within the group of nonstative ObjExp verbs

Not all verbs summarized under the label 'nonstative' ObjExp verbs behave alike as already indicated briefly in the empirical analysis. While all of these verbs have in common that they – as opposed to the stative ObjExp verbs – form adjectival passives, and can be used attributively in their past participle form, which is taken to show that these verbs contain some kind of change of state, they also split into two groups, which show different behaviour with respect to verbal passivization, and the possibility to have agentive readings. While verbs such as *enttäuschen* 'disappoint', and the PREFIX-√PSYCH verbs like *verwundern* 'PREFIX.puzzle', etc. can form verbal passives, allow for agentive readings (see 289), and are consequently called 'fully agentive or '±agentive' in many accounts, other verbs like *erstaunen* 'amaze', *anwidern* 'disgust', etc. do not form verbal passives, and cannot have agentive subjects, i.e. agentive readings, but restrict their subjects to the causer[65] role, traditionally referred to as 'stimulus' (following Talmy 1985) as (290) shows.

(289) a. Paul/Das Spiel verärgerte/ enttäuschte Anna.
Paul/the.NOM game PREFIX.annoyed/ disappointed Anna
'Paul/The game annoyed/disappointed Anna.'

b. Anna ist/war ver-ärgert über/ enttäuscht von Paul/ dem Spiel.
Anna.NOM is/was PREFIX.annoyed about/ disappointed of Paul/ the game
'Anna is/was annoyed/disappointed about Paul/the game.'

c. Paul verärgerte/ enttäuschte Anna absichtlich.
Paul PREFIX.annoyed/ disappointed Anna deliberately
'Paul deliberately annoyed/disappointed Anna.

d. Anna wurde (von Paul/ durch das Spiel) verärgert/ enttäuscht.
Anna.NOM became (by Paul/through the game) PREFIX.annoyed/ disappointed
'Anna was annoyed/disappointed by Paul/the game.'

[65] This is, of course, based on the almost unanimous assessment that these ObjExp verbs are causatives, which has been assumed by the overwhelming majority of approaches (see McCawley 1976; Grimshaw 1990; Iwata 1995; Pesetsky 1995; Arad 1998a, 1998b, 2002; Pylkkänen 2000; Bennis 2004; Levin & Rappaport 2005; Landau 2010; Martin 2013) as well as for German in particular (see Brandt 1979; Rapp 1997, 2001a, 2001b; Rothmayr 2009; Verhoeven 2010, 2014, 2015). I follow these claims without arguing explicitly for a causative analysis at this point, since it seems to be the obvious choice in case of the eventive ObjExp verbs. The causative status of ObjExp verbs will however be discussed in the context of the stative ObjExp verbs in 5.2.3.3.

(290) a. Paul/Das Spiel erstaunt Anna.
Paul/The.NOM game amazed Anna.
'Paul/the game amazed Anna.'

b. Anna ist/war erstaunt über Paul/ das Spiel.
Anna.NOM is/was amazed about Paul/ the game
'Anna was amazed about Paul/the game.'

c. *Paul erstaunt Anna absichtlich.
Paul amazed Anna deliberately
'Paul amazed Anna deliberately.'

d. *Anna wurde (von Paul/ durch das Spiel) erstaunt.
Anna.NOM became (by Paul/ through the game) amazed
'Anna was amazed (by Paul/the game).'

However, the second group of 'nonstative' ObjExp verbs not only differs from the canonical change-of-state accomplishment ObjExp verbs regarding verbal passives, and the agentivity restriction but also with respect to their behaviour in certain event structure tests. Therefore, the question what kind of change of state these verbs contain deserves a bit more discussion, since it seems not to be identical to the accomplishment-like first group of ObjExp verbs. It can be observed that the combination of verbs of this second group like *erstaunen* 'amaze', *anwidern* 'disgust', etc. with telic *in*-adverbials yields rather bad or unclear judgements (see 291-292) (see also Rapp 2001b), certainly in comparison to the first group of change-of-state accomplishments such as e.g. *verärgern* 'PREFIX.annoy'. The same holds for their behaviour with respect to *for*-adverbials, which seem to be possible for some verbs, however, certainly neither to the same extend as with the stative ObjExp verbs nor with same kind of clearly iterative interpretation as with the accomplishment-like group. For many of the verbs this is equally odd. Thirdly, the aspectual diagnostic of combination with expression of quantity shows that these verbs take both vague expression of quantity like *a lot* as well as cardinal numbers like *three times*. While most of these diagnostics raise questions with respect to the telicity of these verbs, a fourth diagnostics points in another direction: these verbs also license time reference adverbials like *whenever* as in (294) (see Marín & McNally 2011 on this last test).

(291) a. ?(?)Das widerte mich in zwei Minuten an.
this disgusted me in two minutes VERBPRTL

b. ?? Das erstaunte mich in zwei Minuten.
this amazed me in two minutes

(292) a. ?? Das widerte mich zwei Stunden lang an.
this disgusted me two hours long VERBPRTL

b.?(?)Das erstaunte mich zwei Stunden lang.
this amazed me two hours long

(293) a. Das widerte mich sehr/ zwei Mal an.
this disgusted me much/ twice VERBPRTL

b. Das erstaunte mich sehr/ zwei Mal.
this amazed me much/ twice

(294) a. Immer wenn ich so etwas sehe, widert mich das an.
'It always disgusts me whenever I see something like that.'

b. Das erstaunt mich immer wieder, wenn ich so etwas höre/wenn er das sagt.
'This amazes me time and again when I hear something like that/he says that.'

The picture which emerges from these event structure tests is also in line with further observations about *-ung* nominalizations: while *-ung* nominalizations exist for many of the accomplishment ObjExp verbs, they are hardly possible with this second group of verbs, even though many of these verbs are also morphologically complex consisting of a prefix or particle, and a Root. As Roßdeutscher points out judgements often vary with respect to *-ung*-nouns, and if the complex prefixed verbs are not telic, which is "more often the case than not" (2014: 301), *-ung* nominalizations are not possible in general. This means the inability of the second group of ObjExp verbs discussed here to form *-ung* nominalization points in the same direction as their behaviour in the event structure tests: while they denote some kind of change of state, this seems not to be of the same kind as in the accomplishment ObjExp verbs, i.e. they seem not to be telic change-of-state verbs to the same extend as this first group, but mirror the empirical properties Van Voorst (1992) describes for ObjExp as achievement verbs.

One attempt to capture similar observed behaviour is Marín & McNally's (2011) analysis of Spanish reflexive *se* SubjExp verbs as 'inchoative states', and inchoative achievements, which Shimoyoshi (2015), and Fábregas & Marín (2015) also apply to the analysis of ObjExp verbs. The main point Marín & McNally (2011) argue for is a separation of the concepts of 'change of state', and 'inchoativity'. On the basis of Piñón's (1997) concept of achievements as 'boundary happenings' with zero duration, they propose to separate the two concepts: while change of state, which they equate with being telic, contains reference to the left and right boundary of an eventuality (in the Piñón sense), verbs can be 'inchoative' by making reference to the left (or right) boundary of an eventuality only. For Marín & McNally such boundary happenings are truly instantaneous, and non-dynamic because they are either punctual referring to the left boundary only (see 295a), or because they are stative with an obligatory reference to the left boundary triggering that state as schematised in (295b). In the latter case, Marín &

McNally (2011) take the position that such verbs referring to the left boundary of a state and the resultant state are nevertheless states, and not eventive.

(295) a. inchoative predicate: [
b. inchoative state: [----------

This assumption makes the analysis problematic for the group of ObjExp verbs under consideration here. The aspectual properties could be interpreted as pointing in the direction of an analysis of these verbs as 'inchoative states', since they show some parallels to Marín & McNally's (2011) description, especially with respect to the problematic status of their telicity, as discussed above, which make such an approach an interesting option. However, the German ObjExp verbs are eventive, and contain a structure which is more similar to the accomplishment-like ObjExp verbs than the stative ObjExp, contrary to the assumptions by Marín & McNally (2011) for SubjExp verbs, and the claims made by approaches which apply their analysis for SubjExp verbs to ObjExp verbs, like e.g. Shimoyoshi (2015).

The evidence for this comes from three sources: Firstly, these verbs pattern like the accomplishment ObjExp verbs in many of the tests discussed in chapter 4: they not only form adjectival passives like the other nonstative ObjExp verbs but their past participle forms can be used attributively like for change-of-state verbs, which shows that they contain a internal direct object. This direct object can be used attributively with the adjectival present participle like a canonical accusative object with structural accusative as well. Additionally, these verbs show the adjective formation pattern typical for eventive causative ObjExp verbs, i.e. they form adjectives on the basis of their past and present participle, the latter of which show the characteristic ambiguity between an 'evaluative' and a 'psych' reading as described in Ramchand (2018). Finally, these verbs also allow for 'split stimuli', which are characteristic for causative change-of-state verbs. Moreover, these verbs are also usually morphologically complex[66] (see Abraham 2013: 81 on verbs like *er-staunen*) as opposed to the purely stative √PSYCH verbs, which are morphologically simple. This morphological complexity of nonstative ObjExp verbs as opposed to stative psych verbs is not an idiosyncrasy of German but seems to

[66] If one considers e.g. the '–agentive' group of verbs in Verhoeven (2014), all of these verbs except for the √PSYCH verbs *wundern, ekeln, freuen,* and *interessieren* 'interest' are morphologically complex. Besides the two patterns of morphologically complex prefix/particle verbs, and morphologically simple stative verbs, a third pattern can be observed: 'non-native' Roots like √interess 'interest', √schock 'shock', √faszin 'fascinat-', √amüs 'amuse', which are all taken from either Latin or French, behave differently from √PSYCH verbs: they form ObjExp verbs with the verbalizing suffix *–ier(en)*. While this is an interesting observation, I have to leave an in-depth investigation of this phenomenon for further research at this point. Yet this observations points into the direction that for these verbs, the French/Latin Root can contribute the result component, which √PSYCH cannot.

reflect a broader cross-lingustic tendency as Fábregas & Marín (2015: 261) make similar observations for Spanish ObjExp verbs, which are morphologically more complex than stative SubjExp verbs containing prefixes and other additional morphological material (see 296). Pesetsky (1995: 45-46) reports the same for Japanese. Fábregas & Marín explicitly argue that "these morphemes systematically come accompanied by a causative semantics" (2015: 262).

(296) a. am-a ~ en-amor-a (Spanish)
love-THV PREFIX-love-THV 'cause to love'

b. temer ~ a-temor-iz-a
fear PREFIX-terror-ise-THV 'frighten'

(Fábregas & Marín 2015: 261, (72))

The German verbs like *er-staunen* 'amaze' also follow a typical pattern of (non-psych) telic change-of-state prefix and particle verbs in German: the intransitive base verb such as *staunen* 'mavel' changes into a transitive verb *er-staunen* by the addition of a prefix only if the newly created verb is "terminative". For "interminative" durative verbs, the verb usually remains intransitive, if a prefix or particle is added (see Abraham 1995: 78-82).

TABLE 10: Properties of ObjExp verbs in comparison

	Change-of-state accomplishments	*erstaunen, anwidern, etc.*	**Stative √PSYCH** verbs
Morphological complexity	morphologically **complex**	morphologically (usually) **complex**	morphologically simple
Adjectival passive	**yes**	**yes**	no
'Split stimuli'	**yes**	**yes**	no
Past participle can be used attributively	**yes**	**yes**	no
Present part. can be used attributively/as an adjective, and **with ACC object**	**yes**	**yes**	no
Verbal passive	yes	no	no
Agentive reading	yes	no	no

In all these domains, these verbs pattern like the accomplishment ObjExp verbs, and contrary to the statives as summarized in TABLE (10). All this points towards the conclusion that these verbs contain an internal direct object, and a change-of-state (at least under 'a broader notion', as Gehrke (2015) puts it) like the accomplishment ObjExp verbs, and unlike stative psych verbs.

Secondly, the 'problematic' behaviour of these verbs with respect to the aspectual diagnostics has to be relativized if they are compared to other verbs which are considered to be canonical examples of change-of-state causatives like e.g. *zerbrechen* 'break'. These verbs show very similar behaviour with respect to their aspectual properties: *-ung* nominalizations are also not possible for these verbs, while *in*-adverbials are as bad as they are with the *erstaunen, anwidern* ObjExp verbs, *for*-adverbials are also infelicitous. The obvious difference is that these verbs allow for an agentive use with an animate subject, but their aspectual properties are very similar.

(297) a.??Peter/ Der Schlag zerbrach die Vase in einer Sekunde.
Peter/ the knock broke the vase in a second

b.??Peter/ Der Schlag zerbrach die Vase zwei Minuten lang.
Peter/ the knock broke the vase two minutes long

c. *Zerbrech-ung
break-SUFFIX$_{UNG}$

These verbs describe a change which happens instantaneously or involves only a very short process, and leads to a caused result state. With respect to the former property they are achievements in the sense of Piñón (1997), or Ramchand (2008)[67]. Consequently, opposed to telic change-of-state accomplishments, the process bringing about the change, and leading to the change of state cannot be modified, especially for the achievement ObjExp verbs. For these ObjExp verbs there is no independent external causing event brought about by a (potentially agentive) external causer, but these verbs denote a kind of internal change, and the result state this leads to. Crucially, however, they are eventive. With respect to that they are similar to the group of German non-psych verbs which Engelberg (2000a) characterizes as 'punctual with result state' ("*punktuell mit Nachzustand*").

Thirdly, the strongest argument that these verbs contain a change of state of a certain kind, i.e. that they are eventive, comes from adjectival passivization. These verbs form adjectival passives just as the accomplishment ObjExp verbs do. As the discussion in 4.4.2 has shown this seems not to be sufficient to prove that these verbs have to be eventive since some stative or 'non-transformational' verbs can form adjectival passives as well, if they have an internal direct object. However, evidence that the 'weakly/–agentive' ObjExp verbs discussed in this section

[67] Since this is a complex question in its own right, I will remain agnostic about the debate of whether achievements are in fact accomplishments with a very short 'process component' (Ramchand 2008), or whether they lack any process component at all (Piñón 1997). What matters most for the purpose here is that, analysed either way, achievements differ from accomplishments, and from states with respect to their aspectual properties in the way described, especially in the possibility to modify the causing event.

are also eventive comes from two specific characteristics of their adjectival passives: firstly, as Nicolay (2007: 203) observes that the adjectival passives of these verbs (as of all ObjExp verbs) do not show the special restrictions on temporal interpretation which the (marginal) uses of stative verbs that can form adjectival passives characteristically display (see also Möller 2015: 87-94). This means that the adjectival passives of ObjExp verbs need not to be interpreted as simultaneous to their active counterparts as opposed to stative verbs used in the adjectival passive (see Engelberg 2000a). One important observation[68] about the adjectival passives of ObjExp verbs further underscores this point empirically: the sentences in (298) exhibit an ambiguity typical for change-of-state verbs, one would not except to see it if ObjExp verbs were states, for which the discussed simultaneity restriction on their temporal interpretation holds. This clearly shows that the ObjExp verbs denote the result of some kind of change as adjectival passives (of nonstative verbs) usually do.

(298) Anna war beeindruckt/ angewidert/ verärgert/ enttäuscht, als ich ihr sagte, dass…
'Maria was impressed/ disgusted/ annoyed/ disappointed when I told her…'
Reading 1: 'Maria was already impressed/… / disapointed when I told her that…'
Reading 2: 'Maria became impressed/… / disappointed when I told her that…'

The ambiguity of sentences like these has been observed by Marín & McNally (2011: 471-472), who paraphrase the two meanings for the corresponding English examples as in (298). However, German shows an interesting difference to English. While the adjectival passive is ambiguous in its interpretation in this way, the two readings cannot be expressed in the same way they can be paraphrased in English as (299) demonstrates.

(299) a. Maria war (schon) beeindruckt/ angewidert/ verärgert, als ich ihr sagte…
Maria was (already) impressed/ disgusted/ annoyed when I her told

b. *Maria wurde beeindruckt/ angewidert/ verärgert, als ich ihr sagte…
Maria became impressed/ disgusted/ annoyed when I her told

(300) a. Maria war wütend/ sauer/ böse/ traurig/ ärgerlich, als ich ihr sagte,…
Maria was angry/ cross/ angry/ sad/ annoyed when I her told…

b. Maria wurde wütend/ sauer/ böse/ traurig/ ärgerlich, als ich ihr sagte,…
Maria became angry/ cross/ angry/ sad annoyed when I her told…

The combination of *werden* as a copula with the meaning of 'become' plus an adjective, which is the English paraphrase of the second inchoative reading of (298) is not possible for ObjExp

[68] Thanks to Josep M. Fontana for drawing my attention to this phenomenon.

verbs in German (see 299b). It is only possible to combine truly stative predicates like psych adjectives such as *wütend/ sauer/ böse* 'angry', *traurig* 'sad', or *ärgerlich* 'annoyed', etc. with the copula *werden* as in (300b). Here we can spot another difference between ObjExp verbs and stative predicates, which shows that these ObjExp verbs are not stative. To sum up, the ObjExp verbs like *erstaunen, anwidern*, etc. discussed here do not behave as if they were stative with respect to their adjectival passives, but behave like other change-of-state verbs.

A second observation is even more revealing: under the distinction of adjectival passives into target state (like 301a), and resultant state (like 301b) passives introduced by Kratzer (2000), (as discussed in 4.4.2), it is important to highlight that the passive forms of all ObjExp verbs are target state passives (see 302). Anagnostopoulou (2003a), Embick (2009), and others, point out that only (causative) change-of-state verbs constitute good input for the formation of target state passives, and the discussion in 4.4.2 has shown that the marginal uses of 'non-transformational' verbs without a change of state like activities and states can only form resultant state but not target state passives. The Result(P) component seems to be an obligatory prerequisite for target state passives, as e.g. Anagnostopoulou (2018) argues.

(301) a. Die Reifen sind immer noch aufgepummt. (target state)
The tires are (still) pumped up

b. Das Theorem ist (*immer noch) bewiesen. (resultant state)
The theorem is (*still) proven

(Kratzer 2000: 385-386, (1b), (2a))

(302) a. Er ist (immer noch) erstaunt/ befremdet.
he is (still) amazed/ alienated

b. Sie ist (immer noch) angewidert.
she is (still) disgusted

I will follow Embick's (2009) approach, which can account for this difference by assuming that a target state is neither a primitive nor part of a lexical item (pace Kratzer 2000), but "defined in terms of the CAUSE relation" as "a state that is an argument of CAUSE: …STATE(s) ∧CAUSE(e,s)…" (2009: 5). Under such an approach target states "come about in the interpretation of syntactic structure in which a state is in a local relationship with an event" (Embick 2009: 5) as in (303), i.e. the causative relation is not introduced by a labelled head in the syntax either, but assigned due to the interpretation of the syntactic structure when it is interpreted at the CI-interface.

(303) [*v* STATE]
(Embick 2009: 5, (7))

Consequently, a structure like (303) with an eventive *v* is a prerequisite for the formation of target state passives. Since the adjectival passives of all ObjExp verbs including the 'weakly or –agentive' ones like *erstaunen* 'amaze'*, anwidern* 'disgust'*, befremden* 'alienate' etc., are target state passives, this constitutes another clear argument that all Class II ObjExp verbs – except for the √PSYCH verbs – have to be eventive, otherwise they could not form target state passives. The same argument based on the observation that these adjectival passives are target states can also be made from a semantic point of view: Beavers (2011) associates affectedness, the prototypical property of direct objects of change-of-state verbs with Kratzer's concept of target states: based on the conceptualization of change as [BECOME ψ], for him, affectedness depends on the condition "that ψ is a new state that obtains and maintains for some entity x due to the event, in particular what Kratzer (2000) calls a 'target state' (after Parsons 1990: 235)" (Beavers 2011: 338). And Beavers further points out as well that change which leads to such a target state "can only be encoded in dynamic predicates" (2011: 338). Consequently, the fact that the adjectival passives of all ObjExp verbs are target states shows that the experiencer arguments of all Class II ObjExp verbs – except for the stative √PSYCH verbs – exhibit the same degree of affectedness, and also points in the direction that these verbs are all eventive change-of-state predicates, which is the reason why they have affected direct object arguments.

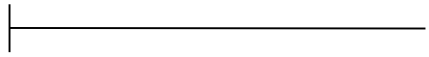
Finally, cross-linguistic evidence also points towards the conclusion that these ObjExp verbs are not stative: in Spanish, these verbs form passives with *estar* as illustrated in (304)[69] (see also Fábregas & Marín 2015). Arche et al. (2017: 44-45) point out that not all predicates allow for *estar*-passives in Spanish but only those which contain what they call 'a process element', i.e. those which are eventive. That is, only activities, accomplishments, and achievements can form *estar*-passives, while states are ruled out. In fact, the situation seems to be more complicated because only those verbs which contain a certain kind of result or target state unrestrictedly form good *estar*-passives as Josep M. Fontana (p.c.) points out, i.e. most accomplishments, and certain achievements are fine, but only a few activities. However, the important fact for the study here, which is beyond doubt, is that stative verbs are definitely infelicitious in the *estar*-passive. This adds another piece of evidence that the nonagentive ObjExp verbs discussed in this section are not stative but eventive since data like (304) shows that these verbs fulfil the prerequisite of being eventive, and can thus form *estar*-passives.

[69] Thanks to Josep M. Fontana, who provided me with the Spanish data, and drew my attention to this fact.

(304) a. Mi hijo está fascinado con tu regalo. (Spanish)
my son is[estar] fascinated with your present

b. Juan está asustado.
Juan is[estar] scared/frightend

To summarize, based on these three pieces of evidence, firstly, their empirical behaviour, which resembles the behaviour of the accomplishment verbs in many ways, secondly, the aspectual similarity to causative achievement verbs such as *zerbrechen* 'break', and, thirdly, the fact that these verbs also form target state adjectival passives, and have 'affected arguments', I conclude that the 'weakly/–agentive' Class II ObjExp verbs are also eventive containing some kind of change of state, at least under 'a broader notion'. Consequently, I take these ObjExp verbs to be achievements with a result state (analogous to Engelberg's (2000a) 'punctual verbs with result state'). Their aspectual properties mirror in many aspects Marín & McNally's (2011) concept of 'inchoative states', however, with the crucial difference that, at least ObjExp verbs, are eventive, i.e. the boundary (change) they denote makes them eventive. Rozwadowska (2003, 2017) also argues that these verbs are different from standard telic accomplishments, however, for her, these verbs are the mirror image of telic action predicates, which denote a process followed by a culmination. The important difference, which sets these verbs apart from telic accomplishment verbs, is that they lack the development part which complex predicates contain (see Rozwadowska 2012). This can consequently explain why achievement ObjExp verbs cannot be used agentively because agentive modifiers target exactly this dynamic development part of a causative accomplishment verb, which describes the process that causes the change of state. Since "[t]he beginning of an event can also be considered a culmination point" (Van Voorst 1992: 70), it is important to note that events can also lead to the beginning of another eventuality, not only to their own culminations as in the case of accomplishments. In this sense, ObjExp verbs discussed in this section are 'initial boundary events', i.e. culminations followed by a state, as Rozwadowska (2003) points out, which can be schematically represented like in (305).

(305) 

(Rozwadowska 2003: 871, (41b)

Such an analysis also represents the findings of Van Voorst's (1992) study on the aspectual properties of psych verbs[70], which concludes that these do not imply a process leading up to a culmination point (as opposed to accomplishments) but take place (which sets them apart from states). Therefore they are achievements.

This analysis seems also to be in line with Möller's (2007, 2015) observation about the 'moment of realization' ("*Moment der Gewahrwerdung*"), which he describes as the defining characteristic of German ObjExp verbs. This moment is the point in time with which the impact triggered by the stimulus sets in. 'Weakly/–agentive' Class II verbs denote exactly such an instantaneous moment of change in combination with the caused result state it leads to.

Nevertheless, even if the aspectual properties of these verbs are clarified, there is still the question of how to account for the empirical differences between accomplishment Class II ObjExp verbs, and achievement Class II ObjExp verbs. The pattern which can be observed within the group of ObjExp verbs deviates from the well-known pattern of canonical change-of-state verbs undergoing the causative–alternation, as we have seen. However, a similar empirical pattern has been described and analysed recently in the literature for another class of change-of-state verbs, which fall into two groups, and whose behaviour closely mirrors the observed distinction within the group of nonstative ObjExp verbs. These observations will be summarized in the next section (based on Alexiadou 2014b) before an analysis based on the analysis put forward for the transitive alternates of internally caused change-of-state verbs will be developed in 5.1.4.

5.1.3. Transitive alternates of internally caused change-of-state verbs

It has been received wisdom for a long time that so-called internally caused change-of-state verbs (henceforth: ICCOS) like *blossom, ferment*, etc. differ fundamentally from externally caused change-of-state verbs like e.g. *open*, since the latter alternate between a causative transitive and an anticausative intransitive form, but the former only exist in the intransitive form (see 306-307).

(306) a. John opened the door. (externally caused change-of-state)
b. The door opened.

(307) a. *John blossomed the roses. (internally caused change-of-state)
b. The roses blossomed.

[70] While Van Voorst (1992) clearly has a point, and his arguments are convincing for certain ObjExp verbs, he claims this to be universally true for all psych verbs, which is definitely not the case as this study as well as numerous others have shown (see also Landau 2010: 129 on that).

This difference is often explained based on the semantics of the two groups of verbs (see Levin & Rappaport Hovav 1995): while externally caused change-of-state verbs imply the existence of an external causer, which immediately controls the eventuality, internally caused change-of-state verbs lexicalize eventualities which result from properties inherent to the entity undergoing the event, since an internally caused change of state "cannot be externally controlled" (Smith 1970: 107). This classification has been followed in many accounts such as Marantz (1997), Harley & Noyer (2000), Alexiadou et al. (2006), *inter alia*. Yet more recent corpus studies, and experimental work (see McKoon & Macfarland 2000; Wright 2001, 2002) have called this standard view into question, since they show that internally caused change-of-state verbs in English do have transitive forms like in (308)[71]. Not all internally caused change-of-state verbs alternate, and those ICCOS verbs which alternate have the same form in the transitive as in the intransitive use, i.e. they constitute a 'labile' alternation.

(308) a. Early summer heat blossomed fruit trees across the valley.
b. Salt air and other pollutants decay prints.
c. Raindrops selectively erode clay particles.
d. The onset of temperatures of 100 degrees or more, on top of the drought, has withered crops.
(Wright 2002: 340, (6))

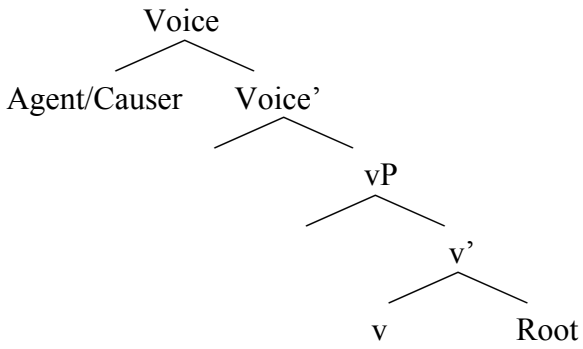
The alternating ICCOS verbs differ from canonical verbs undergoing the causative alternation with respect to three main aspects: (i) type of subject, (ii) gradience, (iii) subject modification. While verbs of the canonical causative–anticausative alternation allow for a variety of different types of subject arguments, agents, causer, and instruments (see Levin & Rappaport Hovav 1995; Reinhart 2002; Pylkkänen 2008), the transitive forms of internally caused change-of-state verbs are restricted to causer subjects, and tend to be only very rarely animate, as Wright (2002) describes. Secondly, not all internally caused change-of state-verbs show the same frequencies in the alternation: some verbs like *bloom, blossom*, etc. are rarely found in transitive uses, while others like *ferment, wilt,* etc. show higher numbers. Importantly, as Alexiadou (2014b) notes, frequency of transitive use correlates with the ability to take animate subjects. Finally, sentences with transitive alternate of ICCOS verbs are generally more acceptable, when the causer subject is modified, as Wright (2002) observes.

[71] Lavidas (2007), and Roussou & Tsimpli (2007) also report similar data for Greek, see Alexiadou (2014b) for an extensive discussion of the data from English and Greek.

All these facts pose serious challenges for the standard view of the separation of internally and externally caused change-of-state verbs, especially for lexical semantic approaches, but they are also problematic for syntactic approaches, since certain transitive ICCOS verbs take predominantly causer subjects. This is difficult to deal with because under most of the standard syntactic approaches (see e.g. Kratzer 1996; Hale and Keyser 2002; Ramchand 2008; Borer 2005; Alexiadou et al. 2006) the external argument should be able to bear different thematic roles, as Alexiadou (2014b: 883) points out.

Therefore, Alexiadou (2014b) proposes a new syntactic account for these alternating internally caused change-of-state verbs. Based on the observed empirical differences between different ICCOS verbs, especially the gradient behaviour with respect to passivization, and the restriction of the type of external argument, she proposes that the alternating internally caused change-of-state verbs are to be separated into two groups: the *ferment*-class, and the *blossom*-class. The verbs of the *ferment*-class allow for passivization, and do not restrict their subjects to the causer role. Therefore, they are analysed on a par with 'cause underspecified verbs' like *open* which undergo the regular causative–anticausative alternation. Based on the analysis of the causative–anticausative alternation as a Voice alternation (see Alexiadou et al. 2006, 2015; and section 5.1.1), under which change-of-state verbs are syntactically decomposed into three layers, a Voice component introducing the (implicit) agent, a v projection licensing causer arguments, and a Root component, which contributes the resultant state, these *ferment*-class verbs have the structure in (309).

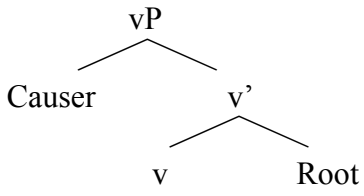
(309) *ferment*-class (Alexiaodu 2014b: 901, (43b))



On the contrary, the verbs of the *blossom*-class, whose transitive alternates do not passivize (well), and whose subjects are restricted to the role of causer, have the structure in (310). Like all change-of-state verbs they share the core configuration of a causing event represented by v, and the result state contributed by the Root. However, their causer argument is introduced in vP, not in VoiceP. The analysis thus introduces "a layering approach to external arguments,

according to which agents are uniformly licensed in Voice, while causers in vP" (Alexiadou 2014b: 896). Causers are considered to be a kind of event modifiers, not event participants (see Solstad 2009; Wood 2015), they are licensed in vP specifying the causing event introduced by v in the causal relation. These causers could also be regarded as an alternative realization of PP causers (see Schäfer 2012). What is central under this concept of causer is their inherent eventivity, causers "name/explicate the event that leads to the resultant state of the theme" (Alexiadou 2014b: 896). The fact that the causer of the *blossom*-class is introduced in vP, as opposed to VoiceP, accounts for the restriction that the subject of these verbs has to be a causer, but cannot be an agent.

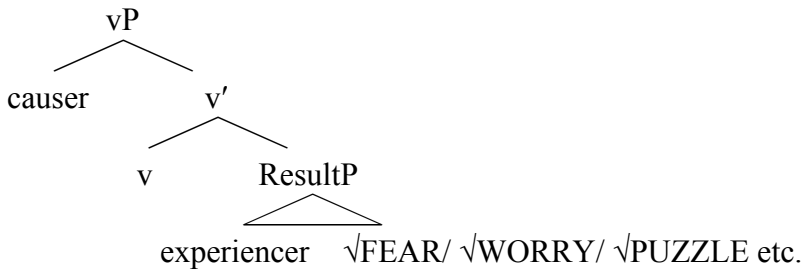
(310) *blossom*-class (Alexiadou 2014b: 901, (43a))



The restriction on the passivization of the *blossom*-class also follows from their lack of Voice under the assumption of the Voice hypothesis that Voice both introduces the external argument in the active as well as implicit arguments in the passive.

Alexiadou (2018), and Alexiadou & Anagnostopoulou (2018) extend this analysis also to nonagentive Greek Class II ObjExp verbs which do not passivize. This widens the scope of the layering approach according to which a distinction is made between agentive subjects, which are introduced in Spec,VoiceP, and nonagentive causer subjects that are placed in a lower position, Spec,vP. The important conclusion they draw is "that class II OE verbs are not transitive in Greek (i.e. they do no include VoiceP), though they might be causative" (Alexiadou 2018:22), and consequently, they analyse them on the basis of the structure in (310) as in (311).

(311) Eventive, nonagentive ObjExp verbs (Alexiadou & Anagnostopoulou 2018, (43))



They argue that the presence or absence of Voice in different ObjExp verb structures is crucial to explain the 'psych properties' often diagnosed in the literature, such as clitic-doubling in Greek. Building on Stowell (1986), and Campbell & Martin (1989), the authors follow Landau (2010) in that experiencers in constructions lacking Voice such as (311) behave syntactically like subjects at some level, e.g. in languages like Greek they must establish a movement relationship with T either overtly or at LF. According to their explanation this is due to the semantic fact that in such constructions the two core properties of subjecthood, causing change, and being mentally involved (see Grimshaw 1990; Dowty 1991; Reinhart 2002) are split between the causer, and the experiencer. In structures with an agentive Voice layer, however, these properties are unified in the agent, which therefore has "a privileged relationship with T", in their terminology, while the experiencer is interpreted as a standard object in vP. On the contrary, if the Voice layer is not present, the experiencer establishes the movement relationship to T via clitic-doubling in Greek. They further assume that Voice is a phase head, and, consequently, the lack of Voice leads to the Spell-Out of vP together with the TP in structures like (311), which allows "for experiencers to qualify as subjects for certain properties and to causer arguments to qualify as subjects for other properties in a kind of multiple subject construction" (Alexiadou & Anagnostopoulou 2018: 27).

While Alexiadou & Anagnostopoulou (2018) maintain Landau's (2010) central insight that experiencers in nonagentive ObjExp verbs behave like subjects at some level, and with respect to some properties, it is crucial to highlight the differences between the two accounts: for them the reason for this behaviour of eventive nonagentive ObjExp verbs is not the special structure or property of the experiencer argument as Landau argues, for whom nonagentive experiencers are oblique PPs embedded under a silent $Ø_{\Psi}$, but they attribute this to the properties of the syntactic structure, more precisely the interplay of the presence or absence of Voice with general semantic features associated with subjecthood, and the Spell-Out of phases.

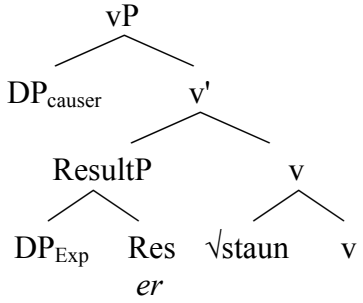
5.1.4. Different types of nonstative ObjExp verbs

The empirical behaviour of the nonstative ObjExp verbs in German bears lots of similarities to the transitive alternates of internally caused change-of-state verbs: while all of these verbs contain an element of change of state – contrary to the stative ObjExp verbs – they also fall into two groups, which show almost identical characteristics to the two groups of transitive alternates of ICCOS verbs. Verbs such as *enttäuschen* 'disappoint' can form verbal passives, and can have agentive readings, are 'fully or ±agentive', whereas other verbs like *erstaunen*

'amaze' do not form verbal passives, and cannot have agentive subjects, i.e. agentive readings, but restrict their subjects to the causer role, traditionally referred to as 'stimulus' (Talmy 1985). Consequently, because of these similar properties the proposal is to analyse these verbs on a par with the transitive alternates of internally caused change-of-state verbs: verbs of the first group like *enttäuschen* have the same structure as 'cause unspecified/externally caused' change-of-state verbs like *open*, and the *ferment*-class (as pointed out in 5.1.1).

Achievement-like Class II ObjExp verbs are analysed like the *blossom*-type ICCOS verbs under Alexiadou's (2014b) approach, i.e. they introduce their causer subjects in Spec,vP instead of Spec,VoiceP, and lack a Voice projection (see 312). For morphologically complex verbs, the result state is provided by a ResP analogous to the accomplishment ObjExp verbs. Such an analysis is well motivated since we have seen that the majority of these verbs is also morphologically complex, e.g. like *an-wider(n)* 'disgust', *er-staun(en)* 'amaze', etc., consisting of a particle or prefix, and a Root √wider-[72]/√staun-, which can form an atelic verb on their own like the accomplishment-like ObjExp verbs analysed in 5.1.1, or they might be de-adjectival like *be-fremd(en)* 'alienate' on a par with verbs like *be-ruhig(en)* 'calm'.

(312) Achievement with result state ObjExp verbs (*erstaunen, anwidern,* etc.)



This structure can account for the agentivity and passive restriction on the one hand, and for the properties these verbs have in common with the accomplishment ObjExp verbs on the other hand. Since these verbs introduce their subject argument in the vP, it cannot get an agentive reading because the Voice layer, the locus of agentivity, is absent in these structures, and, consequently, agentive modifiers cannot be licensed. As the structure in (312) lacks Voice, these verbs cannot form verbal passives either under the Voice hypothesis following analyses of the passive like Kratzer (1996), or Bruening (2012). The experiencer argument, however, is

[72] These verbs can vary with respect to whether the decomposition is still synchronically transparent: while verbs like *erstaunen* are still very transparent, since the verb *staunen* 'marvel' is still used, this is not always equally the case: the verb *widern* is synchronically no longer used (as frequently as) *anwidern*, but exists (see DWDS.de, *Wörterbuch der deutschen Gegenwartssprache* 'Dictonary of Contemporary German' accessed via DWDS.de). Furthermore, examples of its use can be found until well into the 20th century, e.g. in Thomas Mann's *Der Zauberberg*: "*alle Gäste erklärten, sie könnten den Schnee nicht mehr sehen, er widerte sie*" (2014[1924]: 477).

in the same position of the internal direct object as in the accomplishment ObjExp verbs, consequently, it is available for operations which depend on the presence of a direct object like attributive use of the past participle, and adjectival passive formation. Importantly, as the empirical analysis in chapter 4 has shown, the two groups of eventive ObjExp verbs do not differ with respect to the status of their experiencer arguments but only regarding the presence or absence of Voice, i.e. the Voice-related phenomena passive, and agentivity. These verbs are canonical NOM–ACC verbs, the accusative on the experiencer is structural case, which can be accounted for under a Dependent Case Theory approach, given the structural configuration of (312) (see Marantz 1991/2000; Wood 2011; more details in 5.2.3).

The crucial assumption such an analysis is built upon is that causer subjects can not only be licensed but can also be introduced in the vP. This, however, needs not to be stipulated for psych verbs only, but can be observed independent of ObjExp verbs, as the case of transitive ICCOS verbs shows. It seems to be an empirical fact that causer DPs are not only introduced in Voice, but might also be base-generated in vP as Alexiadou (2014b) argues. This is all the more plausible given that v is standardly assumed to be the licenser of causative semantics and causer arguments in general (see Alexiadou et al. 2015; Wood 2015; Harley 2017). Furthermore, given the plurality of different structures which can be exploited to express a cause(r) relation, i.e. nominative DP causers, PP-causers, and oblique causers (see Schäfer 2012), such a difference between external (possibly agentive) causers, and vP-internal (non-agentive) causers seems not to be far-fetched but rather fits into the general picture of this diverse, and heterogeneous pattern. The existence of 'non-agentive causers' has been argued for and motivated before, not least since Pylkkänen (1999, 2002, 2008) made the case for separating causation from the assignment of the external argument role in the syntax (at least for what she calls 'non-bundling' languages). Other approaches have also stressed the need to account for the existence of 'non-agentive causatives': Hasegawa (2001), for instance, argues that Chomsky's (1995) *v* is both a functional and a lexical category, and, consequently, the feature set of *v* should be separated as in (313) (= (17) from Hasegawa 2001: 9).

(313) *v* is categorically both functional and lexical
Functional feature: [± Object Case]
Lexical feature: [± external role]

On the basis of e.g. the ObjExp verb examples like in (314) he argues that this is reasonable and necessary because besides transitive verbs with the feature combination [+Object Case,

+external role], and unaccusative verbs with [–Object Case, –external role], also "non-agentive causatives" with the feature combination [+Object Case, –external role] exist, which consequently have non-agentive DP-Causer subjects.

(314) a. It surprised everyone that John left so early.

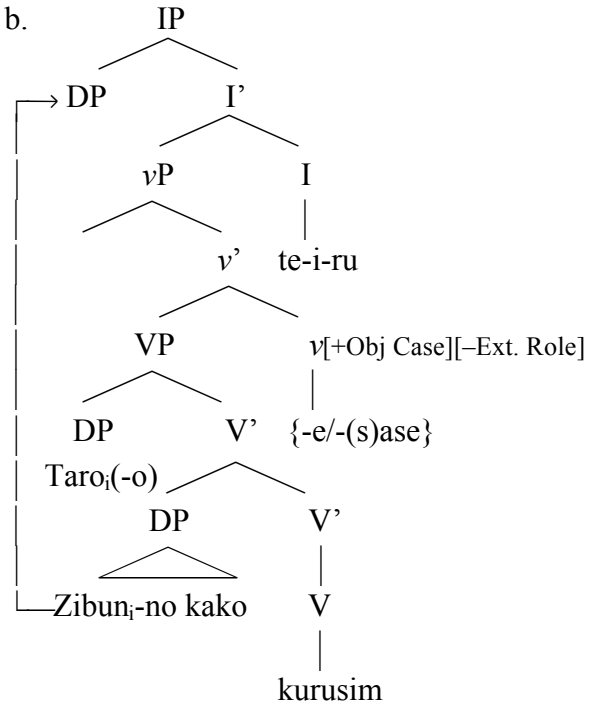
b. It made me happy that Mary showed up.

c. Sono sirase-ga minna-o odorok-ase-ta. (Japanese)
the news-NOM everyone-ACC surprised-CAUSE-PAST
'The news surprised everyone'
(Hasegawa 2001: 9-10, (19); 13, (33a))

Hasegawa argues that if *v* has the feature [–external role] the non-agentive DP-causer subject is not base-generated in Spec,*v*P (which roughly corresponds to Spec,VoiceP in the Kratzer system used here) since only agentive subjects are introduced in this position in transitives with the feature [+external role]. This means the subject (Cause) of object experiencer verbs is base-generated VP-internally lower than the experiencer, and moves to SpecIP to become the subject (see 315b), i.e. he suggests a raising analysis for 'non-agentive' DP-causers.

(315) a. Zibun$_i$-no kako-ga Taro$_i$-o kurusim{-e/-ase}-te-i-ru. (Japanese)
self-gen past-nom -acc be=tormented-{tr/cause}-prog-pres
'His past life distresses Taro.'

b.



(Hasegawa 2001: 23, (59))

He further observes on the basis of the Japanese data that a clear-cut distinction between lexical and periphrastic causatives seems to be difficult to maintain, since especially for the ObjExp verbs it is not clear whether they are lexical causatives or syntactic periphrastic causatives. Therefore, he suggests that the meaningful distinction which should be made for causatives is between causatives with an agentive causer, and causatives with a non-agentive causer.

While such an analysis could in principle account for the observed empirical properties of ObjExp verbs with agentivity and passivization restriction, and ICCOS verbs, it is confronted with a profound problem for a language like German, which does not have a (strong) general EPP on I/T: since the standard view is that nominative DPs (can) remain VP-internal as subjects in German if they are base-generated in such a position (see Haider 1993, 2010; Bayer 2004; Wurmbrand 2006, among others), such an analysis could not be implemented in a language like German. Even if a kind of 'subject' position Spec,IP (see Travis 1984), or non-operator A-position Spec,FinP (see Fanselow 2002) is assumed for German sentences, the analysis does not work for reasons of locality, since such a position should always attract the closest element in the syntactic structure to capture independently motivated facts about DAT–NOM verbs, adverbials, etc. (see Fanselow 2002 for discussion). The only way to account for the observed properties is to assume another VP/vP-internal position to introduce the non-agentive causer, or to which it can be raised. Consequently, the existence of 'non-agentive causers', which show passive restrictions like the ICCOS verbs, and the achievement ObjExp verbs, makes it necessary to assume a different position for causers in the vP to account for these facts. To assume such a vP-internal position for causers is needed to account for these observations even in an approach like Alexiadou et al.'s (2015), which argues that Voice comes in different 'flavours', and a $\text{Voice}_{\text{CAUSE}}$ exists beside the standardly assumed $\text{Voice}_{\text{AGENT}}$ and $\text{Voice}_{\text{HOLDER}}$, since causer subjects introduced in $\text{Voice}_{\text{CAUSE}}$, at least in languages like English and German, do not show the passivization restriction observed with some ObjExp verbs, and the ICCOS verbs of the *blossom*-type.

5.1.5. Summary and conclusion

As the empirical analysis in chapter 4 has shown Class II ObjExp verbs split into two groups based on their behaviour with respect to a number of diagnostics: stative versus nonstative. While the nonstative Class II ObjExp verbs behave like canonical change-of-state verbs in many respects, this group is not completely homogeneous either: nonstative ObjExp verbs also fall into two groups depending on the restrictions they show with respect to verbal passivization,

and the agentive interpretation of their subjects. Crucially, however, it has been shown that both of these subgroups are eventive change-of-state verbs. They differ only with respect to the exact kind of change they represent, i.e. their aspectual properties: while some nonstative ObjExp verbs are accomplishments, others are achievements ('punctual with a result state').

Since these two groups of verbs show numerous parallels to canonical change-of-state causatives, their analysis is built on the basis of the analysis proposed for standard non-psych change-of-state verbs. Specifically, the kind of split between those verbs which show a restriction on verbal passivization, and limit their subjects to causers, and those verbs which behave like externally caused/cause unspecified change-of-state verbs mirrors closely the behaviour of another group of verbs, which has recently received attention: transitive alternate of internally caused change-of-state verbs. Because of the parallels in the empirical behaviour of these two groups of verbs, an analysis following Alexiadou's (2014b) analysis for transitive alternates of internally caused change-of-state verbs has been proposed. Specifically, this means to account for the observed empirical distinctions in a layering approach to external arguments: while the accomplishment Class II ObjExp verbs introduce their (potentially agentive) causer subjects in Spec,VoiceP, the achievement-like Class II ObjExp introduce their causer argument in vP, which accounts for the restrictions on verbal passivization and agentivity. More in general, ObjExp verbs thus provide further arguments for a layering approach to external arguments, as they provide another case in point that nominative DP causers can be realized in two different positions.

The similarities between alternates of internally caused change-of-state verbs, and ObjExp verbs can also be substantiated conceptually. Based on Haspelmath's idea that "[e]vents can be arranged on a scale in order of decreasing likelihood of spontaneous occurrence (as conceptualized by the speaker)" (2005: 7), Schäfer (2008) argues that the conceptualization of change-of-state verbs conditions the behaviour of these verbs, i.e. whether they can undergo the causative alternation (see also Alexiadou et al. 2006 for this idea). "The likelihood of spontaneous occurrence of an event described by a Root is directly reflected by the syntactic frame a Root can enter" (Schäfer 2008: 160-161).

(316) Categorization of Roots (Alexiadou et al. 2006, 2015)

a. √agentive

b. √externally caused

c. √cause underspecified

d. √internally caused

Based on the assumption that Roots can be categorized as in (316), Roots of the type √*agentive* and √*externally caused* occupy the one end of a scale, since they are associated with events of low spontaneity, and need a transitive syntax, as they are conceptualized with an external force bringing about the event. √*Internally caused* Roots occupy the other end of the scale as they represent events of high spontaneity, and favour an intransitive syntax as they can be easily conceptualized to occur without the interference of external forces. Roots of the √*cause unspecified* type are in-between, which is why they alternate, i.e. allow for both transitive and intransitive constructions.

TABLE 11: Spontaneity scale (based on Schäfer 2008: 161, Table 1)

{ √agentive	<	√externally caused	<	√cause unspecified	<	√internally caused }
–spontaneous	<	… … … … … … …		… … … … … … …	<	+ spontaneous
		← transitive |				| intransitive
				open-type		
		<----------*ferment*-type			*blossom*-type---------->	
		<----------ObjExp verbs---------->				

Crucially, I assume that what Schäfer points out for √*cause underspecified* Roots holds in general: "the conceptualization of these events is not absolute but only a tendency" (2008: 161). If one follows such a view that change-of-state events, and, consequently, verbs can be categorized along such a scale, the parallel between ObjExp verbs and transitive alternate of internally caused change-of-state verbs can also be argued for on conceptual grounds. The characteristic of ObjExp verbs is that they describe a kind of causative relation which combines elements of external causation, i.e. the bringing about, or triggering of a change-of-state, and internal causation, since this change-of-state does not happen in the physical world but internally to the experiencer. This reflects partly the ontological assumptions argued for in Kutscher's (2009) model of bi-directionality, as well as Croft's (1993, 2010) force-theoretic model. Consequently, ObjExp verbs can be conceptualized as more or less spontaneous, i.e. occurring more or less externally or internally caused, depending on whether the change of state they represent occupies a position on the scale between √*externally caused*/√*cause unspecified*, and √*internally caused* Roots, see TABLE 11. Like for the transitive alternates of internally caused change-of-state verbs, those ObjExp verbs which are conceptualized to occur rather spontaneously, and without external force pattern like the *blossom*-type verbs more to the right, while those verbs which represent events which are conceptualized most probably as being brought about by external force pattern like externally caused/cause unspecified verbs.

Consequently, some of these verbs, those which pattern like *open*-type, and *ferment*-type verbs, can also occur in the psych causative alternation. In parallel to their aspectual properties, ObjExp verbs show this variability as a group between different regular patterns of change-of-state verbs. While this represents elements of Kutscher's (2009) conceptual argumentation, it is important to highlight the differences as well: I assume that these effects are not grammatical in the sense that they have a direct influence on the grammar, i.e. the syntactic structures, but due to them structures are filtered out at the CI-interface, therefore, the influence is not direct in the grammar but indirect like for other change-of-state verbs described above. The important insight is that all ObjExp verbs discussed in this section are indeed change-of-state verbs.

Put simply, the characteristic of change-of-state ObjExp verbs is that they are conceptualized on a scale between externally caused and (transitive alternates of) internally caused change-of-state verbs, and depending on whether the events they represent can easily be conceptualized as happening spontaneously and without an external force they either pattern like *blossom*-type verbs, or like *open*-type/externally caused change-of-state verbs (see also Rozwadowska 1989, 1992, 2017; Iwata 1995). This tendency can also be seen in periphrastic constructions of the nominalizations of these psych verbs if these are possible: while externally caused ObjExp verbs like *enttäuschen* 'dissapoint' can be combined with verbs like *bereiten* 'make/give', which express that the emotion is caused or forced 'upon' someone, the internally caused ObjExp verbs tend to form such combinations with (*er)wecken* '(a)wake/arouse', which express that the emotion is caused to arise in, or from within the experiencer like in *Interesse/Begeisterung/Faszination wecken* 'arouse interest/enthusiasm/fascination'.

A final conclusion is that the findings about German nonagentive eventive experiencers add further evidence for Alexiadou & Anagnostopoulou's (2018) approach to explain the existence of 'psych properties' as the consequence of the presence or absence of Voice in combination with phase theory and other general grammatical principle (as opposed to Landau's (2010) account based on the special status of the experiencer as a $Ø_{\Psi}$-marked PP): eventive ObjExp verbs, no matter whether agentive or nonagentive, behave alike in almost all respects apart from agentivity and passive restrictions, and whether or not they contain a process component which can be modified, i.e. whether they are accomplishments or achievement change-of-state verbs. Crucially, in all the diagnostics which are sensitive to the status of the experiencer argument like adjectival passive formation, attributive use of the past and present participle, 'topic drop', etc. all eventive ObjExp verbs behave alike, i.e. the nonagentive eventive experiencer objects do not show oblique, or PP-like behaviour as Landau's account postulates, and predicts. In other words, 'affected argument experiencers' in nonagentive eventive ObjExp verbs are not

oblique objects, or PPs but regular internal accusative objects DPs (see Grafmiller 2013 for the same results for English). This shows that the supposed special status of the experiencer (as marked by a $Ø_{\Psi}$ in a PP) in nonagentive eventive ObjExp verbs cannot be the source of the 'psych properties' diagnosed for these verbs, but be indeed the presence or absence of Voice together with the principle of phase theory seem to be responsible, since this is the only respect in which these groups of verbs differ.

5.2. Stative psych verbs

In the second part of this chapter, the analysis of the stative psych verb forms will be discussed. While there is an almost unanimous consensus in the literature with respect to the stative SubjExp verbs like *love, hate,* etc., and also with respect to the analysis of the stative dative Class III ObjExp verbs (often referred to as *piacere/appeal* class), the analysis of stative Class II ObjExp verbs poses the greatest challenge for all approaches to psych verbs, while even the descriptive characterization, proper classification, and analysis of Class II ObjExp verbs as such is highly controversial, as the discussion has shown. The stative Class II ObjExp verbs constitute the real acid test for all accounts of psych verb. While many studies report the existence of a problematic stative (causative) group of ObjExp verbs (see Grimshaw 1990; Dowty 1991; Pesetsky 1995; Primus 2006; among others), these verbs and their properties have hardly ever been properly discussed and analysed so far (but see Pustejovsky 1995; Rapp 1997; 2001a, 2001b; Pylkkänen 2000; Arad 2002; Rothmayr 2009), especially not in combination to the diverse behaviour ObjExp verbs display with respect to passivization, agentivity, etc. Consequently, the major focus of this chapter will be on the discussion of the analysis of this problematic class of stative Class II ObjExp verbs, since they seem to be crucial for a proper understanding and analysis of psych verbs. This falls well within the broader debate about the nature of stative verbs, which has gained some prominence recently (see García-Pardo 2015, 2017; Maienborn & Herdtfelder 2017; Rappaport Hovav 2018; Ramchand 2018). Filip (2012: 730) notices that "[s]tate verbs are the most puzzling of the aspectual classes" since their ontological status is far from clear, and not only developments in the discussion about states (see e.g. Chierchia 1995 and others) have "shed doubts on Dowty's (1979, p. 71) claim that state predicates are 'aspectually simple and unproblematic, and therefore their corresponding abstract state predicates are 'primitive' components in the aspect calculus" (Filip 2012: 730). This re-considering of stative predicates as not that 'simple' and basically lacking any structure has currently been a common theme with respect to many questions (see e.g. work by

Maienborn 2003, *et seq*.; Husband 2012a, 2012b; among others). Generally, stative verbs have been a neglected topic in many ways. Consequently, a closer look at the stative forms in the domain of psych verbs is as needed as it is worth pursuing in general, especially since the key to the controversial debates on psych verbs seems to lie in the stative ObjExp verbs.

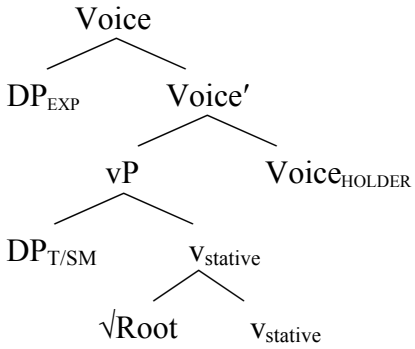
In 5.2.1, the analysis of stative SubjExp verbs will be sketched out, which follows in a rather uncontroversial way from the properties of these verbs, while in 5.2.2 a little bit more of discussion will be needed to present the analysis of dative Class III ObjExp verbs. This is an important step in the argumentation, since it will be finally argued in 5.2.3 that all stative psych verbs forms share the same basic syntactic configuration, which is responsible for the licensing of the 'holder experiencer'. Yet the analysis of the stative Class II ObjExp verbs presents a number of complex problems. Since the empirical analysis of the German data has added evidence to the cross-linguistically valid assessment that ObjExp verbs are not a homogeneous group, but that crucial aspectual distinctions have to be made, the two approaches which provide the most convincing analyses capturing these finding, Arad (2002), and Landau (2010), will be reviewed first. As both analyses are confronted with a number of problematic issues resulting from the discussion of German here, and other cross-linguistic findings as will be shown, an updated version of the two main strategies to handle the analysis of the problematic stative ObjExp verbs will be discussed in 5.2.3.1, and 5.2.3.2. The solution which will be argued for finally in 5.2.3.4 is that these verbs are stative causatives that have a 'complex ergative' (Bennis 2004) structure, which constitutes the core of the stative causative relation. This analysis tries to combine insights from both Arad, the basic decompositional Distributed Morphology model treating the different readings, or forms of the same Root as resulting from different functional structures the Root is merged with, as well as Landau's central insight that stative ObjExp verbs differ structurally from nonstative ObjExp verbs.

5.2.1. Subject experiencer verbs

One of the very few questions in the discussion about psych verbs on which almost unanimous consensus has been reached is the analysis of SubjExp verbs like *love, hate, fear*, etc. These verbs are taken to be transitive stative verbs, most probably individual-level predicates (see Iwata 1995; Primus 2004; Landau 2010; Rozwadowska 2017; among others). With the exception of some approaches (see Croft 1993; Härtl 2001a; Kutscher 2009), the central difference between SubjExp and ObjExp verbs is quite universally assumed to be a difference with respect to causativity: while (Class II) ObjExp verbs are considered to be causative verbs,

SubjExp verbs are not (see e.g. Grimshaw 1990; Levin & Rappaport 2005; Primus 2004, 2006; Levin & Grafmiller 2013; Hartshorne et al. 2016; among others). From the cross-linguistically observed fact that SubjExp verbs regularly form verbal passives, in combination with their other 'regular transitive' properties, it has been followed that these verbs are regular transitive verbs with canonical external and internal arguments. Under the theoretical approach pursued here this means that these verbs contain a Voice layer on top of a stative vP. Voice introduces the external argument in its specifier, which is associated with the thematic role of holder of a state. In other words, the difference to dynamic/eventive verbs with Voice heads like the accomplishments discussed in 5.1, or activities is that the thematic relation the external argument bears is not one of agent, or causer but 'holder'. There are different ways to implement this: one is to assume a $\text{Voice}_{\text{HOLDER}}$ head which assigns the holder relation on a par with the dynamic agentive Voice head introducing the role of agent (see Kratzer 1996; Alexiadou et al. 2015), or Voice might not bear such semantic features, but the holder interpretation is derived in the semantics if Voice combines with a stative vP (see e.g. Wood 2015). The second argument of these verbs is analysed as an object of emotion (T/SM) following Pesetsky (1995).

(317) SubjExp verbs



This structure can account for all the observed properties of SubjExp verbs, especially in contrast to the other two groups of stative ObjExp verbs: since SubjExp verbs contain a Voice head, they can feed verbal passivization under the Voice hypothesis:

(318) a. Die Schüler lieben/ hassen den Lehrer.
the.NOM pupils love/ hate the.ACC teacher
'The pupils love/hate the teacher.'

b. Der Lehrer wird (von den Schülern) geliebt/gehasst.
the.NOM teacher becomes by the pupils loved/ hated
'The teacher is loved/hated by the pupils.'

c. *Der Lehrer ist von den Schülern geliebt/gehasst.
the.NOM teacher is by the pupils loved/ hated

d. ??Der Lehrer ist (von allen) geliebt/gehasst.
the.NOM teacher is by all loved/ hated

Crucially, it is the absence or presence of Voice which is central for passivization not stativity or agentivity, as the data from German but also from other languages show: it is a cross-linguistically valid observation every approach to psych verbs has to account for that in many languages stative SubjExp verbs passivize regularly, while stative ObjExp verbs do not, as Landau (2010) reports. An account like the one proposed here can account for this: while stative ObjExp verbs are unaccusative/'(complex) ergative' verbs which lack a Voice projection, and therefore cannot passivize, the SubjExp verbs with the structure in (317) can form regular passives. For many other approaches, especially those which postulate that passivization in German requires an agent subject, this is not easy to account for (see also Czepluch 2004).
Since the structure of the SubjExp verbs does not contain any kind of change-of-state, or inchoativity these verbs do not productively form adjectival passives of the standard kind, as we have seen (see Zifonun et al. 1997: 1815). Their stativity makes them only marginally acceptable (if at all) in the adjectival passive (see 318d), most probably, the oddness of forms like (318c) can be traced back to the diachronic development of the verbal *werden*-passive into the default passive also for stative verbs, as Gillmann (2016) argues based on Eroms (1992), and Kotin (2003). It is important to highlight that the verbal passives of stative verbs like (318b) are interpreted as stative not eventive but are regular passives (see Grillo et al. accepted).

5.2.2. Class III object experiencer verbs

The analysis of dative Class III ObjExp verbs turns out to be more controversial than the analysis of the stative SubjExp verbs. However, there is still a considerable degree of agreement in the discussion about these verbs, such that, at least recently, a clearly dominant view on how to analyse these verbs has emerged, which will be followed here.

5.2.2.1. Class III ObjExp verbs are unaccusative

Building on Belletti & Rizzi's (1988) observations about the unaccusative syntax of Italian Class III *piacere* verbs, the discussion about the German dative Class III verbs led to a major controversy in the syntax literature in the late 1980s, and 1990s. The starting point of the

discussion was the observation that German dative ObjExp verbs, as opposed to (the majority of) unaccusative verbs, and the Italian ObjExp verbs of the *piacere* class, do not universally select *sein* 'be' as perfect auxiliary, but fall into two groups as (319-320) shows: one selecting *sein* 'be', the other one *haben* 'have' as perfect auxiliary (see also Klein & Kutscher 2005).

(319) a. …dass uns das aufgefallen ist.
that 1PL.DAT this.NOM noticed PERFECT-AUX.PRS.3SG
'…that I have noticed that.'

b. …dass uns das gefallen hat.
that 1PL.DAT this.NOM appealed.to PERFECT-AUX.PRS.3SG

(320) a. Dative ObjExp selecting *sein* 'be' as perfect auxiliary: *auffallen* 'notice', *misslingen* 'fail',...

b. Dative ObjExp selecting *haben* 'have' as perfect auxiliary: *gefallen* 'appeal to', *imponieren* 'impress', *zusagen* 'appeal to',…

Based on these observations, and a number of other tests, Haider (1985), and Grewendorf (1989) argue that only those dative ObjExp verbs which select *sein* 'be' as perfect auxiliary should be considered unaccusative, or in their terminology 'ergative'. Such approaches clearly emphasize the explanatory power of auxiliary selection as an unaccusativity diagnostic. However, as Fanselow (1992) points out there are at least 20 different diagnostics which have been claimed to be relevant in the context of the unaccusativity discussion, yet many of these are known to be quite unreliable, since they give inconsistent results, or it is, at least, contested what these diagnostics exactly show, both cross-linguistically as well as for German (see Eisenberg 1989; and the discussion in Schäfer 2008: 179-210). Fanselow (1992), based on work such as Eisenberg (1989), Brandner & Fanselow (1989), Wegener (1991), shows that the whole group of dative ObjExp verbs should be treated as unaccusative/ergative, since their syntactic behaviour shows significant similarities, and their properties often overlap, while some of the tests used by Grewendorf (1989) for claims to the contrary are rather problematic. While not all of this debate can be summarized here, the major pieces of evidence presented by Fanselow (1992), and subsequent are to be summarized briefly, since the analysis of Class III ObjExp will also provide the starting point for the discussion and analysis of stative Class II verbs in the forthcoming sections.

Firstly, Fanselow (1992) points out that both groups of dative ObjExp verbs are not available for *-er*-nominalizations, which are typically possible for verbs with thematic subjects (a test explicitly used by Haider and Grewendorf). With respect to this diagnostic, all dative ObjExp verbs behave as one homogeneous group (see 321).

(321) a. *Ankommer, *Faller, *Gelinger, *Auffaller
arriver faller suceeder noticer

b. Schläfer, Läufer, Träumer, Vielwisser, Amerikahasser
sleeper runner dreamer much.knower America.hater

c. *Gefaller, *Passer, *Schader, *Schmecker
appeal.to.er fitter harmer taster/relisher

(Fanselow 1992: 281, (7a-c), glosses are mine)

The second important piece of evidence in his argumentation is verbal passivization: based on the assumption that passivization is only possible if an external argument subject is present in the active counterpart of a verb, since the suppression of such a subject argument is a prerequisite for passivization, at least in some language (see Baker, Johnson & Roberts 1989), Fanselow (1992) argues that the fact that both groups of dative ObjExp verbs behave alike in that they do not passivize is a clear indication that they are both 'ergative'/unaccusative:

(322) a. *es wird ihm mißlungen/passiert/ zugestossen/aufgefallen
it becomes 3SG.DAT failed/ happened/ befallen/ noticed

b. *es wird ihm gefallen/ genügt/ gefehlt/ gepaßt
it becomes 3SG.DAT appealed.to/ sufficed/ wanted/ suited

(Fanselow 1992: 282, (8a-b), glosses are mine)

The third point Fanselow makes concerns differences with respect to unmarked word order. While there are few restrictions on word order variation in German in general, a broad consensus following the seminal work by Lenerz (1977), as well as Hoberg (1981), Höhle (1982), and others, is that these variations always have to be interpreted in contrast to an 'unmarked normal word order'. Contrary to the order nominative≫dative≫accusative, which is always possible, other ordering is tied to semantic-pragmatic properties of the 'scrambled' constituents. The fact that the 'unmarked word order' for all dative ObjExp verbs is dative≫nominative (see 323a) strongly points towards an ergative/unaccusative analysis for all of these verbs, as already argued for in Lenerz (1977). The fact that this base order configuration also displays a reflexivization pattern which is completely parallel to (NOM-)DAT-ACC structures further underscores that point (see Czepluch 2004: 182-183).

(323) a. Gestern hat dem Mann das Bild von sich noch gefallen.
yesterday has the.DAT man the.NOM picture of himself still pleased

b. …weil wir dem Mann gestern das Bild von sich verkauften.
because we the.DAT man yesterday the.ACC picture of himself sold

c. *weil den Mann der Bruder von sich erschreckt hat.
because the.ACC man the.NOM brother of himself frightened has
(Czepluch 2004: 182, (23))

Finally, a last central piece of evidence comes from variable binding, as e.g. Wurmbrand (2006) shows. Unaccusative dative≫nominative verbs like the Class III ObjExp verbs behave differently from transitive nominative≫dative verbs like e.g. *helfen* 'help' with respect to their variable binding properties as the comparison in (324) reveals. If the nominative DP precedes the dative DP, a bound variable interpretation is only possible for the unaccusative verbs like *gefallen* 'appeal to' but not for the NOM-DAT verbs (see 324a-b). If the dative precedes the nominative, the reverse is true (see 324c-d). (325) shows the generalized scheme under the standard assumption that in such constructions the bound variable interpretation can only arise if the arguments containing the bound pronouns are not in their base positions but have been moved to the position they are in from a position lower than the quantified arguments, i.e. in this case *jedem Großvater* 'every grandfather' in (324a-b).

(324) a. weil seine_i Enkelinnen jedem Großvater_i gefallen
since his_i-NOM granddaughters every-DAT grandfather_i please-3PL
'since every grandfather likes his granddaughters'

b. ?*weil seine_i Enkelinnen jedem Großvater_i vertrauen/helfen
since his_i-NOM granddaughters every-DAT grandfather_i trust / help
'since every grandfather help/trust his granddaughters

c. ?*weil ihrem_i Großvater_i jede Enkelin_i gefällt
since her_i-NOM granddaughters every-NOM grandfather_i pleases
'since her grandfather likes every granddaughter'

d. weil ihrem_i Großvater_i jede Enkelin_i vertraut/ hilft
since her_i-NOM granddaughters every-NOM grandfather_i trusts/ helps
'since her grandfather trusts/helps every granddaughter'

(325) a. $\textit{his}_i$-NOM [$_{VP}$ $\textit{every}_i$-DAT t_{NOM} unaccusative V]
(*like*, *manage*)

b. * [$_{vP}$ $\textit{his}_i$-NOM $\textit{every}_i$-DAT transitive V]
(*help*, *trust*)

c. * [$_{VP}$ $\textit{his}_i$-DAT $\textit{every}_i$-NOM unaccusative V]
(*like, manage*)

d. $\textit{his}_i$-DAT [$_{vP}$ $\textit{every}_i$-NOM t_{DAT} transitive V]
(*help, trust*)

(Wurmbrand 2006: 190, (10), (11))

Under the assumption that the nominative DP in (324a/325a), and the dative DP in (324d/325d) can reconstruct to their base positions at LF, the differences in (324) can be explained in terms of the structural differences as represented in (325) as Wurmbrand (2006) points out: since the nominative and the dative arguments are in their respective base-positions in (324b-c), no reconstruction can take place, and, consequently, the bound variable interpretation is not possible. If the dative is the higher of the two arguments in unaccusative DAT-NOM verbs like *gefallen* 'appeal to', the different behaviour of these verbs with respect to variable binding in comparison to transitive NOM-DAT verbs follows from the different underlying unaccusative structure containing two VP-internal arguments with the nominative DP base-generated in a lower position.

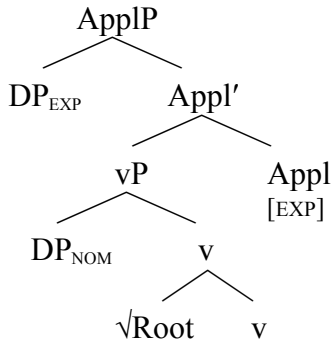
For all these reasons, views in the literature have converged on the standard assumptions that all Class III dative ObjExp verbs are indeed unaccusative verbs with a structure in which the nominative argument originates in a position lower than the dative, such that these verbs have a canonical unmarked DAT–NOM word order, and VP-internal nominative subjects (see Lenerz 1977; Frey 1993; Fanselow 2000a, 2003b; Haider & Rosengren 2003). This view is also supported by the results of recent experimental studies, which strongly point towards such a structure for German Class III ObjExp verbs (see Temme & Verhoeven 2016).

5.2.2.2. Analysis of Class III ObjExp verbs

Based on the evidence presented in the previous section, I follow Fanselow (1992, 2003a, 2003b), Wurmbrand (2006), and others, in analysing all dative Class III ObjExp verbs as 'unaccusative double object' verbs. In the framework used here, this leads to an analysis of these verbs involving a functional verbal (High)Applicative head introducing the experiencer argument on top of an unaccusative vP structure, in which the nominative subject is base-generated in a position lower than the experiencer. In that I follow the analysis by McFadden (2004, 2006) for German dative Class III ObjExp verbs. He suggests an analysis of these verbs as unaccusative versions of regular DAT–ACC double object verbs. The high inherent dative is always introduced by a v-applicative head as in 'unergative DAT verbs' like e.g. *helfen* 'help', yet the unaccusative structures lack an external argument. Appl licenses the experiencer argument, and is involved in the licensing of dative on it. It combines with the stative vP by Event Identification, and relates the experiencer as holder to the state described by the vP on a par with other HighAppl heads, which introduce e.g. benefactives, etc. (see Pylkkänen 2008: 16-19). Such an analysis is in line with the standard analysis of Class III dative ObjExp verbs

pursued in most recent approaches cross-linguistically (see Fábregas et al. 2017, Kim 2016; Wood 2015; Cornilescu 2015; Cuervo 2003; among others), and might also explain the puzzling fact that the experiencer argument in Class III ObjExp verbs can also participate in 'object drop' constructions (see 4.4.7): the applied argument can be dropped in appropriate contexts under a generic reading (see also Cuervo 2003 for a detailed argumentation in this direction).

(326) Class III dative ObjExp verbs



The Appl head introducing the experiencer is a HighAppl head in the terminology of Pylkkänen (2008). Class III ObjExp verbs fulfil two of the three tests which separate high from low applicatives (see Pylkkänen 2008: 33): firstly, they are stative, and statives can only be applicativized by high applicatives. Secondly, and more revealingly, the experiencer argument of Class III ObjExp verbs can license depictive secondary predication as (327) demonstrates, which is Pylkkänen's major applicative diagnostic. Only high applicatives – like Voice′, and transitive verbs – are of type ⟨e,⟨s,t⟩⟩, and, thus, provide the correct input for the licensing of depictives under a complex predicate analysis following the semantics for dipictives described by Geuder (2000) since depictive secondary predicates are also of type ⟨e,⟨s,t⟩⟩, and, therefore, can combine via Predicate Modification with other consituents of that type (see Pylkkänen 2008: 21-29 for details).

(327) a. Betrunken gefällt ihm diese Frau am besten. (ambiguous)
drunk pleases him.DAT this.NOM woman best
'Drunk he likes this woman best.'

b. Betrunken mißlingt mir Marmorkuchen immer.
'Drunk I never succeed in making a marble cake.'

(Maling 2001: 444-445, (60a/d))

It is important to highlight again that an analysis like in (326) is based on the observation that a subject may remain vP-internal in German, but can nevertheless get nominative case like the subject DP in this case (see den Besten 1985; Grewendorf 1989; Haider 1993; Wurmbrand

2006) because there is no general (strong) EPP on T requiring the subject to obligatorily move to Spec,TP in German (see Haider 1993, 2010; Bayer 2004; McFadden 2006). That the nominatives in such verb constructions are unequivocally subjects in German has emerged as the consensual result of an extensive discussion in the Germanic syntax literature (see Dixon 1994: 122; Bayer 2004; Haider 2010: 38, 2013). The datives cannot be considered to be 'quirky' subjects because they fail a battery of subject tests, contrary to datives in languages such as Icelandic (see Zaenen, Maling & Thráinsson 1985; Barðdal 2001; Sigurðsson 2004; but see also Fanselow 2002 for a different view).

Dative on the experiencer is a prototypical example of thematically licensed inherent case in the sense of Woolford (2006): inherent case is introduced and licensed by a specific functional head in a certain configuration: Appl above the stative vP. In contrast to lexical case, which is often assumed to be licensed by a Root/lexical item, it is not idiosyncratic but associated with a certain thematic relationship, in this case that of '(holder) experiencer'. Spanish provides the textbook example that demonstrates the general principle for the cross-linguistically observed correlation that dative is often the case of stative experiencer objects. In Spanish, a number of ObjExp verbs show a case alternation as Marín & McNally (2011), and Fábregas et al. (2017) point out: the same verb can either take accusative, or dative experiencer objects, which corresponds to alternating argument structures, and different aspectual properties (see 328): while the dative version is stative, and the experiencer argument is introduced by an Appl head (as Fábregas et al. 2017; Cuervo 2003; among others argue), the accusative version is eventive containing a change of state, and the experiencer is a direct object.

(328) a. Marta lo molesta. (Spanish)
Marta him.ACC bother.PRES.3SG
'Marta (actively) bothers/is bothering him.'

b. El humo le molesta.
the smoke him.DAT bother.PRES.3SG
'The smoke bothers him.'

(Marín & McNally 2011: 468)

c. A María le asusta la economía.
to María her.DAT scare.PRES3SG the economy
'María fears the economy.'

d. A María la asusta su hermano.
to María her.ACC scares her brother
'Her brother scare.PRES3SG María.'

(Fábregas et. al. 2017: 31, (5))

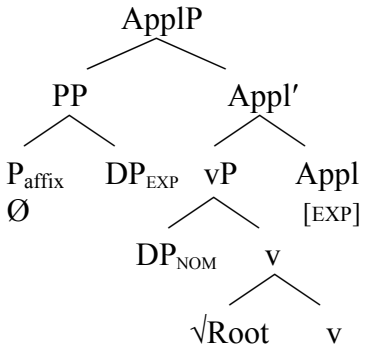
Such an analysis of dative Class III ObjExp verbs is also in line with the general conclusions about German datives drawn in Alexiadou et al. (2013), who argue that datives are inherent datives in German if the respective verbs do not have *bekommen/kriegen* 'get' passives. The dative ObjExp verbs do not form *bekommen*-passives as (329) demonstrates (see, however, Fanselow 1987; Wegener 1991, Wunderlich 1997a, Vogel & Steinbach 1998 for the debate about the status of dative as structural case in German).

(329) a. Das Buch/ Julia gefällt dem Mann.
the.NOM book/ Julia.NOM appeals.to the.DAT man

b. *Der Mann kriegt/bekommt (von dem Buch/ Julia) gefallen.
the.NOM man gets by the book/ Julia appealed.to

Alexiadou et al. (2013) follow Pesetsky's (2013) assumption that an argument bearing dative case should be conceptualized as "bearing an affix of category P," and, consequently, analyse inherent datives as PPs headed by a silent P without a φ-probe, which makes them opaque for Agree relations to any probing heads (see also Řezáč 2008). Inherent dative is thus of the zero affix P, which is introduced and licensed by the functional head Appl (see 330). Under such an approach the case pattern of Class III ObjExp DAT-NOM verbs can be easily derived: the nominative subject DP, which is base-generated lower than the experiencer gets nominative case, and agrees with T since the experiencer is opaque for T probing for a valuation of its unvalued φ-features. As unaccusative *v*/Voice is usually assumed not to constitute a phase head since it does not trigger spell-out (see Chomsky 2000, 2001; Irwin 2012), the whole derivation only constitutes one phase such that the DP_{NOM} is available for the operation Agree once T is merged into the structure.

(330)



An alternative way to account for the case pattern of Class III ObjExp verbs is to follow Anagnostopoulou & Sevdali's (2018) analysis for similar dative (morphologically genitive) ObjExp verbs in Greek, which take a genitive experiencer and a nominative theme. Following

Baker's (2015) rules for dependent case assignment (see 331), Anagnostopoulou & Sevdali argue that dative/genitive on the experiencer can be accounted for as high dependent case on a par with the analysis Baker (2015: 131-132) gives for dative experiencers in Sakha.

(331) a. If XP c-commands ZP in VP, then assign Case U (dative) to XP.
b. If XP is c-commanded by ZP in VP, then assign Case V (oblique) to XP.
c. Elsewhere NP in VP is assigned case W (partitive).
(Baker 2015: 131, (28))

Based on Baker's rules, Anagnostopoulou & Sevdali formulate the rule in (332), which regulates the appearance of the high dative/genitive in Greek.

(332) If DP1 c-commands DP2 in $v_{APPL}P$, then assign U (genitive) to DP1.

While they analyse genitive/dative on the experiencer as high dependent case, the rule in (332) illustrates the important observation that dative as dependent case is associated with a v_{APPL} in their account, and thus is also reminiscent of Woolford's (2006) central characterization of inherent case: the association of case with certain specific functional heads. Consequently, the difference between the two analyses seems to be rather small, especially since it is often not clear for dative whether it should best be treated as dependent structural or inherent case, and where and how the borderline between the two concepts is to be drawn. Baker (2015: 133-134) concludes therefore: "In general, the difference between high dependent case that is assigned in VP domains and inherent dative assigned by a null P to goal-like arguments could be a subtle one." While Baker (2015) analyses dative on experiencers in Sakha as high dependent case, he suggests an analysis of dative on experiencers in almost similar constructions as inherent case with a zero P for Amharic (see Baker 2015: 85-86), as described in (330) above. Since German experiencer constructions also show a similar behaviour to what Baker describes for Amharic as will become clear in the discussion of the stative Class II ObjExp verbs, I opt to analyse dative on German Class III experiencers as inherent case with a zero affixal P, which also allows us to maintain the generalizations by Alexiadou et al. (2013) about the different types of datives in German and beyond based on their ability to form *bekommen* 'get' passives.

5.2.3. Stative Class II object experiencer verbs

As the description and analysis of the empirical properties of German psych verbs in chapter 4 has revealed, the insights from the study of German add further evidence to the view that psych verbs, and especially ObjExp verbs, are neither a homogeneous group of verbs nor too 'special' or diverse to be accounted for based on otherwise independently motivated grammatical structures, but that the important property of these verbs is that they are ambiguous between different regular patterns, and readings, and that aspectual differences are crucial since they condition the different readings. Clear empirical differences and patterns can be detected in German (pace Klein & Kutscher's (2005) claims, and in contrast to Grafmiller's (2013) claims for English), and while the eventive change-of-state readings follow rather well the behaviour of well-known verb classes like those occurring in the causative–anticausative alternation, the analysis of German ObjExp verbs has also shown that the stative Class ObjExp verbs constitute the most challenging case for any account. Consequently, on the basis of these empirical findings, and aiming to explain the empirical properties carved out in the course of the discussion in chapter 4, only analyses which make the crucial aspectual distinction, and attempt to account for the problematic case of the stative Class II ObjExp verbs seem to provide an appropriate starting point for an analysis. Arad (2002), and Landau (2010) can probably be considered to be the most influential approaches in the formal generative literature on psych verbs, which take these criteria into account, and try to offer a solution to the problem of the stative Class II ObjExp verbs. Those two approaches, which have been followed by a number of other studies in their general approach also represent (the) two contrasting strategies in dealing with the problematic class of stative Class II ObjExp verbs, which have been put forward so far. Therefore, in a first step, these two approaches are (re-)evaluated on the background of our empirical findings from German but also from other languages provided by more recent cross-linguistic research. Even though both approaches provide valuable insights, and represent the only strategies offered so far for how to deal with the stative Class II ObjExp verbs, the critical discussion in 5.2.3.1, and 5.2.3.2 respectively will show that they are also confronted with a number of serious challenges. Consequently, neither of the two original proposals seems to able to account for the empirical data properly. Therefore, some suggestions on how to deal with the problematic issues on the basis of the general strategies proposed in the approaches will be made, before the analysis which will be argued for here is presented. Since the analysis of the stative Class II ObjExp verbs as stative causatives with a 'complex ergative' structure basically tries to integrate the best from the two strategies combining the unaccusativity and causativity approaches into a suggestion that seems at least to be able to

account for the German (and other) data discussed here, the two concepts of 'stativity' and 'causation', and their combination are first briefly discussed in 5.2.3.3, before the similarities and differences between stative dative, and stative accusative verbs in German, and what they can contribute to an analysis are summarized in 5.2.3.4. In 5.2.3.5, the analysis based on these previous steps will be presented. Finally, in 5.2.3.6, a number of empirical and conceptual arguments in favour of the analysis suggested here will be summarized.

5.2.3.1. Landau's (2010) unaccusative analysis and its problems

As summarized in more detail in section 2.2.4.3, Landau's (2010) analysis crucially relies on the insight that differences in the structure and empirical behaviour of ObjExp verbs correlate with aspectual differences. Agentive readings of ObjExp verbs are standard causative transitive verbs, i.e. accomplishments, for him, while the nonagentive eventive, and stative readings differ with respect to the fact that in these readings the experiencer is an oblique argument embedded in a PP, whose head P is the silent $Ø_{\Psi}$. Crucially, all experiencers in nonagentive uses of ObjExp verbs are claimed to be inherently case-marked under this approach as Landau postulates in one of his two central assumptions (repeated in (334-335)), upon which he builds his analysis.

(333) Causer >> Experiencer >> T/SM
(334) Inherent case is assigned only to internal arguments.
(335) Universally, non-nominative experiencers bear inherent case.
(Landau 2010: 54-55, (112), (114), (115))

From these three assumptions in combination with the assumption that the non-experiencer argument in stative ObjExp has to be a T/SM, Landau theoretically derives the conclusion that the stative readings of ObjExp verbs are unaccusatives. The eventive nonagentive readings of ObjExp verbs are achievements for Landau, and their experiencer objects are also marked by $Ø_{\Psi}$ in a PP. This means, for him, the crucial distinction is in fact between agentive readings on the one hand, and nonagentive readings on the other hand. Only the nonagentive readings display what he calls 'psych properties'.

This tripartite division of ObjExp verbs according to their aspectual properties seems to be exactly what the empirical analysis of German ObjExp verbs has revealed: besides the stative ObjExp verbs, there are two groups of non-stative eventive ObjExp verbs, one of which patterns like canonical accomplishment change-of-state predicates, while the other displays a kind of inchoativity, or 'change of state in a broader sense', which distinguishes it from the stative

verbs, but is also not identical to the accomplishment group. So far, Landau's approach could explain the empirical behaviour of the three groups: the achievement group does not passivize because their experiencer argument is inherently case-marked, and one could justifiably argue that German has neither of the two parametric options (P-stranding or pied-piping)[73] to form 'psych passives' on the basis of the oblique experiencers. However, the problematic case for Landau's analysis is exactly verbal passivization in German: while one might argue about the acceptability of some individual verbs, it is clear from the data discussed here as well as from the examples presented in the literature (see Fanselow 1992; Klein & Kutscher 2005; Marelj 2013) as well as the internet, and corpus examples presented 4.4.1 that, at the very least, some nonagentive uses of ObjExp verbs in German do have verbal passive as the example in (336) illustrates, while other nonagentive uses do not have verbal passives.

(336) a. Die kritischen Fragen verärgerten den Lehrer.
the.NOM critical questions PREFIX.annoyed the.ACC teacher

b. Der Lehrer wurde (durch die kritischen Fragen) verärgert.
the.NOM teacher became through the critical questions PREFIX.annoyed
'The teacher got annoyed from/was annoyed by the critical questions.'

c. Die kritischen Fragen erstaunten den Lehrer.
the.NOM critical questions amazed the.ACC teacher

d. *Der Lehrer wurde (durch die kritischen Fragen) erstaunt.
the.NOM teacher became through the critical questions amazed

Such empirical behaviour should not occur under Landau's approach, since a language either has one of the two parametric options available to form 'psych passives' from nonagentive ObjExp verbs, and, thus, should be able to form them for all nonagentive ObjExp verbs, or none at all. This means these empirical differences cannot be accounted for, if the critical distinction is really between agentive versus nonagentive uses of ObjExp verbs, and if the marking of the experiencer of the latter group by a $Ø_{\Psi}$ is the central key to explain their diverse behaviour.

[73] The assessment of this question is in fact not trivial for German: while the standard view with respect to preposition stranding seems to be that German – except for some minor very specific exceptions (especially of postpositions) – does not have preposition stranding (see Hornstein & Weinberg 1981; Grewendorf 1989; Oppenrieder 1991; Hoekstra 1995), especially compared to more canonical examples of P-stranding languages, like English, or Scandinavian languages, the question with respect to 'quirky passives' is even more unclear. To start with, the very concept of 'quirky passive' itself is far from being a well-established clear concept, and, consequently, the criteria to evaluate what counts as a 'quirky passive' are not very clear either. While German does have passives of dative objects, these should hardly be considered 'quirky passives', as German does not have 'quirky subjects' either (see Bayer 2004; McFadden 2006). Yet the empirical behaviour of *some* German nonagentive ObjExp verbs to form verbal passives, while others do not passivize, avoids that we have to enter this debate at all, since no matter whether German has one of the parameters or not, it is predicated to behave coherently in one way or the other with respect to 'psych passives' under the Landau analysis, but it should not show passives for some nonagentive eventive ObjExp verbs, while not for others.

Therefore, the analysis here argues that these two different groups of ObjExp verbs differ with respect to their syntactic structure as pointed out above, the fact that verbs of the second group of verbs like *erstaunen* 'amaze' do not include a Voice projection, but introduce their causer argument in vP accounts for the fact that they do not form verbal passives as opposed to the group of canonical causative change-of-state verbs, like e.g. *verärgern* 'PREFIX.annoy/anger'. Conceptually, one of the shortcomings of Landau's approach, which he explicitly acknowledges, is that he does not specify how the different readings of one form are represented, and conditioned. Especially with respect to the group of Class II ObjExp verbs, his proposal seems to be problematic: he does not discuss the consequences of his proposal for the analysis of these verbs explicitly. In fact, his analysis predicts that stative Class II and stative Class III ObjExp verbs should more or less behave alike, since both have the exact same structure of double object unaccusatives with an inherently case-marked PP-experiencer. However, this also means that Landau's analysis implicitly builds on the assumption that stative Class II ObjExp verbs are not causative verbs as opposed to all other Class II ObjExp, which seems to be rather problematic given the detailed semantic studies arguing that these verbs are causatives (see Rapp 1997, 2001a, 2001b; Levin & Rappaport 2005; Rothmayr 2009; Levin & Grafmiller 2013; among others). Neither is it clear how this follows, and what this means for these verbs. The fact that the stative ObjExp verbs are not causative in his analysis poses problems in the light of languages in which these ObjExp verb forms are overly marked by causative morphology like e.g. Turkish (see Montrul 2016; Göksel & Kerslake 2005), Oje-Cree (see Slavin 2013), Japanese (see Hasegawa 2001), Lakhota, and Barai (see Van Valin & LaPolla 1997: 99, 110). While it is not clear in all the cases whether these causative ObjExp forms are also stative, the data from Finnish presented by Pylkkänen (2000) as well as Nelson (1999, 2000) are definitely problematic for a pure unaccusativity analysis like Landau's.

(337) a. Mikko inhoa-a hyttysi-ä. (Finnish)
Mikko.NOM findDisgusting-3SG mosquitos-PAR
'Mikko finds mosquitos disgusting.'

b. Hyttyset inho-**tta**-vat Mikko-a.
mosquitos.NOM findDisgusting-**caus**-3PL Mikko-PAR
'Mosquitos disgust Mikko.'

(Pylkkänen 2000: 418, (1a-b))

These authors show that a group of Finnish ObjExp verbs is ***both*** stative ***and*** causative as (337) demonstrates. While partitive case on the object is the clearest argument for their stativity, Pylkkänen (2000) runs a number of other tests (as discussed in more detail in section 2.2.4.2),

which prove that these verbs are stative. Nelson (1999, 2000) comes to the same conclusion independently of Pylkkänen.

Another problematic aspect related to this is the fact that Class II and Class III ObjExp verbs might show a number of similarities in many languages, like the ones reported in chapter 4 for German, however, besides these similarities also some differences between stative accusative Class II and dative Class III verbs can be observed in a number of languages. Under Landau's approach, these differences are not expected, and cannot be accounted for, given that these groups of verbs have an almost identical syntactic structure. Apart from the differences between German Class II and Class III ObjExp verbs, which will be discussed in more detail in 5.2.3.4, other languages like Spanish (see Fábregas et al. 2017: 30), or Italian also show such differences: while Class III dative ObjExp verbs exhibit an optionality with respect to word order in Italian as (338) shows, Class II ObjExp verbs have to follow the order in (339) obligatorily, i.e. movement of the non-experiencer argument to the subject position is obligatory for these verbs, as Belletti & Rizzi (2012) point out (see also 5.2.3.4 for a more detailed discussion, and analysis of this phenomena). Furthermore, the two groups of verbs show a different behaviour with respect to pre-posed *a*-Topic constructions, which are only possible for dative Class III verbs but not for Class II verbs in Italian, as Belletti (2018) argues.

(338) a. A Gianni piacciono queste notizie. (Italian)
to Gianni like-PL these news

b. Queste notizie piacciono a Gianni.
these news like-PL to Gianni

(Belletti & Rizzi 2012: 133, (10))

(339) a. Queste notizie preoccupano Gianni. (Italian)
'These news worry Gianni.'

b. *Gianni preoccupano queste notizie.
Gianni worry-PL these news

(Belletti & Rizzi 2012: 135, (17))

In addition, Grafmiller's (2013) empirical findings show that most, if not all experiencer arguments in English Class II ObjExp verbs do not show oblique or PP-like behaviour. Landau's analysis, however, predicts that the experiencer objects of eventive nonagentive Class II verbs should show such oblique behaviour, since they are PPs embedded under a $Ø_{\Psi}$-P. While the empirical analysis for German has revealed that there are indeed some accusative experiencer arguments which show 'oblique', or rather dative-like behaviour, the crucial observation is that these are restricted to stative ObjExp verbs only. In other words, the results

from German that experiencer arguments in nonstative nonagentive Class II ObjExp verbs like *erstaunen* 'amaze' behave like canonical direct objects, and not like PPs, support Grafmiller's critique of Landau's account. With respect to the empirical behaviour of nonagentive eventive ObjExp verbs it makes the wrong prediction that these verbs should show 'oblique' PP-like behaviour, which seems not to be the case, neither for English nor for German. Consequently, the conclusion has to be drawn that the eventive nonagentive experiencer objects seem not to be embedded in a $Ø_{\Psi}$-PP as opposed to the stative ones, which show dative-like behaviour.

Besides, Landau's central theoretical assumptions are also confronted with a number of serious empirical problems, which have been raised in more recent work. Several studies cross-linguistically point out that Landau's crucial assumption that all (nonagentive) non-nominative experiencers bear inherent case cannot be true in the light of evidence from different languages such Brazilian Portuguese (see Petersen 2016), or Korean (see Kim 2017). A fundamental problem for Landau's central assumption about inherently case marked experiencers, however, amounts from a recent study on Polish ObjExp verbs: Bondaruk et al. (2017a) show that accusative on stative Class II ObjExp verbs in Polish cannot be inherent case, but is an instance of structural case. The evidence they present is that accusative on the experiencer obligatorily turns into genitive under sentential negation, and, thus, accusative experiencers behave exactly like regular objects with structural accusative case in Polish in this respect (see 340). If the experiencer was inherently case-marked, genitive of negation as a syntactic rule should not be able to override it, as Landau (2010: 22, (42b)) explicitly predicts as a consequence of his analysis. Landau points out that in Russian accusative on the experiencer cannot be overridden by genitive of negation, however, in Polish it can as (341) proves:

(340) a. Marek wysłał Marcie kwiaty. (Polish)
Mark.NOM sent Martha.DAT flowers.ACC
'Mark sent Martha flowers.'

b. Marek nie wysłał Marcie / *Marty *kwiaty/ kwiatów.
Mark.NOM not sent Martha.DAT / *Martha.GEN *flower.ACC/ flowers.GEN
'Mark did not send Martha flowers.'

(341) a. Problemy rodzinne martwiły Martę. (Polish)
problems.NOM family worried Martha.ACC
'Family problems worried Martha.'

b. Problemy rodzinne nie martwiły Marty / *Martę.
problems.NOM family not worried Martha.GEN / *Martha.ACC
'Family problems did not worry Martha.'

(Bondaruk et al. 2017a: 69, (36), (37))

While others like den Besten (1985), or Bennis (2000, 2004) have argued before that the accusative on experiencer arguments is not inherent but structural in languages like Dutch and German, the crucial point about Bondaruk et al.'s (2017a) study is that they control for the aspectual properties of the ObjExp verbs under consideration, and explicitly test accusative on ***stative*** ObjExp verbs, which are the crucial group. Since Landau's analysis crucially depends on the assumption, or rather the claim, that ***all*** non-nominative experiencers ***universally*** bear inherent case, this is clearly a big problem because it basically erodes the foundations of the whole analysis, which is derived from this assumption.

To summarize, while the central idea behind Landau's analysis of ObjExp verbs seems to be on the right track, especially the crucial role of aspectual differences, and the basic classification of ObjExp verbs into three aspectually distinct groups, the implementation of the analysis faces severe problems in the light of empirical counterarguments raised on the basis of data from a number of languages, and cannot be maintained in its original form. However, Landau's intuition that experiencer arguments in nonagentive, or rather stative, Class II ObjExp verbs are of a different type more similar to dative Class III verbs, i.e. have a syntactic structure that is different from experiencers in agentive, or rather eventive, verbs seems to be confirmed by the German data discussed in chapter 4. The analysis in 5.2.3.5 will therefore try to maintain these valuable insights from Landau's analysis, however, implementing them in a different way.

5.2.3.2. Arad's (2002) causative decompositional analysis and its problems

Arad's (2002) analysis shares with Landau (2010) the fundamental insight and principle that aspectual differences are crucial, and ObjExp can have different readings (see 2.2.4.1 for a detailed summary). However, the central difference of the two analyses lies in the way they account for the problematic group of stative ObjExp verbs, and how this difference arises. To begin with, Arad's (2002) Distributed Morphology approach is the only analysis which tries to motivate the difference in the different readings by linking it to an explicit theory of the lexicon-syntax interface. The crucial difference to Landau (2010) is that for Arad the differences between the different readings of ObjExp verbs are exclusively conditioned by the different nature of the functional *v* heads the respective Root combines with. What sets stative ObjExp verb readings apart from agentive ObjExp verb readings can be traced back to the feature configuration of the functional head the same Root combines with. The eventive regular head 'little *v*', and the 'stative little *v*' share the features Arad calls 'transitivity property', and 'verbalizing property', however, they differ with respect to their 'semantic property'. 'Stative little *v*' introduces a different kind of causative relation, stative causation, as opposed to

standard eventive *v*, which introduces the regular change-of-state form of causation (see 2.2.4.1 for details). Importantly, the experiencer argument is the same, and has the same syntactic structure in both configurations. For Arad (2002), the experiencer is an argument of the Root, but in no way special like in Landau's oblique PP structure with the $Ø_{\Psi}$. The central difference is that Arad accounts for the different readings, which she all considers to be causative, and especially the problematic group of stative Class II ObjExp on the basis of the properties of the different little *v* heads, while for Landau (2010) the reason for the different behaviour of experiencer arguments lies in the special oblique nature of the experiencer argument, and he analyses the stative Class II ObjExp verbs as unaccusative verbs. Interestingly, however, Arad (2002) argues as well – but for different reasons – that accusative case on the stative Class II ObjExp verbs is inherent case, in her analysis opposed to dative on Class III ObjExp verbs, which is structural case for her. Consequently, her analysis faces the same problems with respect to the Polish (and Dutch) data, which show that accusative on these verbs is structural. While Arad's analysis has clear conceptual advantages because it offers an explanation for how the different readings are implemented, and it can account for the fact that all Class II ObjExp verb forms seem to be causative, her analysis suffers from serious shortcomings as well: in Arad (2002), the two canonical structures are the agentive reading based on the combination of the Root with the standard eventive little *v* head, which yields a change-of-state causative with a nominative causer/agent external argument, and an accusative experiencer object, and the stative reading, which is based on the combination of the Root with stative little *v*, which results in a stative causative with a nominative external argument and a dative experiencer object. The little *v* heads in both readings share the transitivity and verbalizing property but differ with respect to their semantic content, or 'flavour', i.e. eventive versus stative causation. The stative accusative Class II ObjExp verbs result from the combination of the Root with a defective version of the stative little *v* head. This defective version does not have the transitivity property, i.e. it does not agree with the object, and, consequently, cannot assign structural dative case. While the postulation of such a defective stative little *v* besides the regular stative little *v* appears to be rather stipulative, the problems with the 'regular' stative causative construction seem to be even more worrisome: while Landau's analysis suffers from the fact that it does not assign a causative analysis to the Class II ObjExp verbs, which are most probably causative, Arad's analysis assigns a causative analysis to the Class III *appeal to* verbs, which are more or less unanimously assumed not to be causative but truly unaccusative. Not only for German as the discussion in 5.2.2 has shown but also cross-linguistically the consensus is that these verbs are clearly unaccusative lacking an external argument (see Fábregas et al. 2017; Belletti & Rizzi

2012, 1988; McFadden 2004; Cuervo 2003; among others). Under Arad's (2002) analysis, these verbs should be as transitive as the agentive ones, since the little *v* heads they are combined with share the 'transitivity' property as both "introduce an agentive or a stative external argument" (Arad 2002: 23). The fact that dative Class III ObjExp verbs do not passivize (neither in German nor in many other languages) but show the dative before nominative unmarked word order, select *essere* 'be' as perfect auxiliary, and show the variable word order as in (338) in Italian (see Belletti & Rizzi 1988, 2012), as well as different word order properties in Spanish (see Fábregas et al. 2017) are just a few of the many arguments for their unaccusative syntax, which sets them clearly apart from transitive verbs in many ways. Besides, an analysis of Class III dative ObjExp verbs along the lines proposed by Arad (2002) would inevitably generate the wrong unmarked word order of nominative before dative for German, while it has been shown in 5.2.2 that unmarked DAT–NOM word order is a crucial property of these constructions.

Finally, Arad's analysis treating all experiencer objects alike cannot account for the empirical differences between the behaviour of experiencers in stative versus nonstative ObjExp verbs as discussed in chapter 4. While Landau (2010) wrongly predicts a PP-like behaviour for experiencers in nonagentive eventive ObjExp verbs, which does not exist, Arad cannot account for the dative-like behaviour observed for the experiencer in stative Class II ObjExp verbs. While some of the observed differences between the experiencer arguments could be traced back to stativity, certainly not all of them can be explained by that as the discussion in chapter 4 has shown. Consequently, Arad's approach falls short of accounting for these empirical differences. Additionally, it cannot deal with the observed behaviour of √PSYCH Roots as (stative) modifier Roots either, since all √PSYCH Roots should behave alike in this account contributing a result state component. Consequently, the fact that the √PSYCH Roots in German cannot contribute a result state on their own without a prefix must be stipulated and would have to be part of the 'meaning' of these Roots under Arad's approach.

To summarize, while Arad's insights about the different readings of ObjExp verbs are invaluable, and her approach offers the only explicit account of how these aspectually distinct readings are related, and can be explained in a more general theory of the lexicon-syntax interface, the implementation of these ideas in her approach is problematic for a number of reasons, and faces numerous empirical challenges. The general idea behind her approach that different readings of ObjExp verbs formed on the basis of the same Root depend on how these Roots are combined with functional verbal heads, is, however, so far, the most convincing way to account for the flexibility of these verbs. Moreover, her observations and thoughts on 'stative causation' are central for an analysis of the problematic group of stative Class II ObjExp verbs.

5.2.3.3. On stativity and causation

Traditionally, causation is associated with eventive change-of-state predicates. In many approaches the terms 'causative', and 'change of state' (or accomplishment) are often used interchangeably, especially in decompositional analyses, in which causation is either expressed by the combination of labelled little v heads, i.e. some kind of eventive v head in combination with another stative v head (see Folli & Harley 2005, 2007: v_{CAUSE} + small clause; Ramchand 2008: *Init*P + *Proc*P + *Res*P; Cuervo 2015: v_{DO} + v_{BE}; among others), or causation is assumed to arise at the CI-interface as the consequence of the interpretation of an eventive v head in combination with a result state (see Marantz 2009; Alexiadou et al. 2015, among others). No matter how the systems are designed, they usually restrict causation implicitly to eventive change-of-state verbs, or at least only discuss this eventive version.

Recently, the combination of stativity and causation has received attention with respect to a number of different questions, both in connection to but also independent of psych verbs (see Rothmayr 2009; Fábregas & Marín 2015; García-Pardo 2015, 2017; Maienborn & Herdtfelder 2017; Rappaport Hovav 2018; Ramchand 2018). Pylkkänen (2000) argues on the basis of Finnish ObjExp verbs which are both stative and causative as aspectual tests and their causative morphology show as discussed in 2.2.4.2, and 5.2.2.1 that causativity should be separated from aspect. She gives arguments for the view that it is not correct to assume that stativity and causativity are incompatible per se, but that only individual-level stativity is incompatible with causative structures, while stage-level states are compatible with causation. This separates SubjExp and ObjExp verbs according to her account, since the former are individual-level states, and therefore never causative, while the latter can be stative and causative (besides the eventive causative version). Crucially, this kind of stative causation differs in a number of ways from change-of-state causation, as Pylkkänen points out: firstly, the subject of stative causatives is the target of the caused mental state, while the subject of the nonstative ObjExp verb is a participant of the causing event bringing about the change of state. Secondly, the temporal sequence of stative and nonstative causative eventualities is different: while the causing event in the nonstative causative brings about a change of state, the causing eventuality is interpreted as the perception of the theme of the caused mental state by its experiencer, the causative describes "a causal relation between a state of perception and a mental state, the former of which sustains the latter" (Pylkkänen 2000: 432):

(342) s-level causative: perception
↓ ↓ *causation* ↓ ↓

Clear parallels can be seen to Arad's (2002) description of the stative causative reading of ObjExp verbs: the stative reading is distinguished from the agentive (and the eventive) reading, since there is neither an agent nor a change of state in the experiencer, it describes the "triggering of a mental state by the stimulus" (Arad 2002: 20), which is neither volitional nor under the control of the stimulus. The consequence of stative causation is that "the experiencer is *at* a specific mental state as long as she perceives the stimulus (or has it on her mind)" (Arad 2002: 20). Consequently, the stimulus has to co-occur with the mental state, and is thus an inherent part of the event of the mental state, as the schema in (343) shows, as opposed to the agentive change-of-state causative, in which the agent brings about the change of (mental) state.

(343) a. action mental state

b. perception of stimulus _____ stop

mental state ..... stop

(Arad 2002: 21, (10))

Proposals for analyses of ObjExp verbs as stative causatives with similar properties have been made for Finnish by Nelson (1999, 2000), and Biały (2005) for Polish. The latter argues, couched in the lexical semantic system of Rappaport Hovav & Levin (1998), that stative causatives are distinct from change-of-state causatives because of the fact that they have a different lexical semantic structure as shown in (344b): instead of an individual variable their CAUSE component takes an event variable *e*, which represents the causing subevent.

(344) a. [e CAUSE [BECOME [y <*STATE*>]]] where e is an event (nonstative ObjExp)

b. [e CAUSE [y <*STATE*>]] (stative ObjExp)

(Biały 2005: 160, (264), (265))

This subevent *e* is not independently lexicalised of the main psych predicate but is associated with the constant <STATE>, and the participants related to it. Crucially for Biały's approach, therefore the subevent *e* cannot introduce an external argument in (344b), i.e. an argument from outside of that domain. Biały's claim is that stative causative ObjExp verbs are internally caused, whereas change-of-state causatives are externally caused, which leads to the different argument realization. While the subject position of nonstative ObjExp verbs is an external argument position, and can therefore be occupied by agents and causers, the subject position of

stative ObjExp verbs can only be filled by a T/SM because this is the only theta role compatible with the relevant internal status. Biały also points out that this is due to the different temporal structure of internally caused stative causation, which denotes two temporally dependent subevents, as opposed to external causation which denotes an 'outer' event. For Biały, internally caused verbs are always represented by a simple event structure, and can therefore only license internal arguments, which "play an essential function in the meaning of the verbs" (2005: 161), since they are projected in the internal verbal domain.

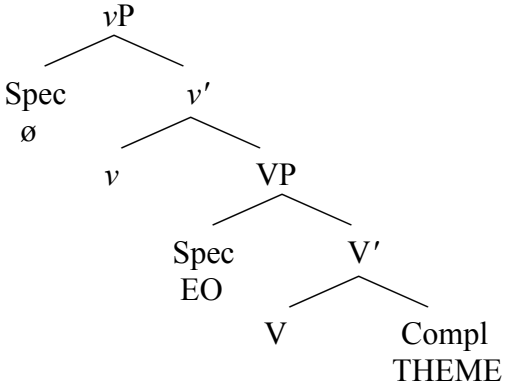
Similar analyses have been proposed for (stative) causative ObjExp verbs and beyond, as other approaches have also stressed the need to account for the existence of 'non-agentive causatives'. As already discussed in section 5.1, Hasegawa (2001) argues on the basis of the ObjExp verb examples like in (345), and other examples that there are "non-agentive causatives", whose *v* (in the sense of Chomsky 1995) has the feature combination [+Object Case, –external role]. Consequently, these causative verbs have a non-agentive causer subject.

(345) a. It surprised everyone that John left so early.
b. It made me happy that Mary showed up.

Hasegawa's syntactic analysis suggests that if *v* has the feature [–external role] the non-agentive causer subject is not base-generated in Spec,*v*P since only agentive subjects are introduced in this position in transitives with the feature [+external role]. This means the subject (cause) of object experiencer verbs is base-generated lower than the experiencer, and moves to Spec,IP to become the subject, i.e. he suggests a raising analysis for 'non-agentive' DP causers.

Bennis (2004) argues for a similar syntactic analysis of non-agentive stative ObjExp verbs in Dutch, for which he suggests the term 'complex ergative verbs' distinguishing them from 'simplex ergative', i.e. truly unaccusative verbs, and proposes to analyse them as in (346).

(346) Complex ergative verbs (Bennis 2004: 107; (49))



The Chomskyan (1995) *v* introduces external arguments, assigns accusative case, and expresses the interpretative concept of causativity in this structure. Since ObjExp verbs bear structural case in Dutch, the verb phrase contains a *v*-layer, which assigns accusative case, yet there is no external argument generated in Spec,*v*P. Both arguments, the experiencer (EO), which receives structural case, and the theme, are VP-internal arguments. The theme, the 'object that causes the emotion', becomes the subject by moving to Spec,TP, which is possible without violating locality, or minimality constraints, since the experiencer argument adjoins to *v*P to check accusative case, and V moves to *v*, and, subsequently, *v* to T, as Bennis points out.

The 'simplex ergative verbs' like the Class III ObjExp verbs have the same VP structure but without a *v*-projection. The characteristic meaning of the 'complex ergative verbs' is "the consequence of the absence of the external argument combined with the presence of the causativity in *v*" (Bennis 2004: 111).

Rothmayr (2009: 43-47) argues more generally on the basis of a counterfactual analysis of causation that causation and stativity are compatible from the point of view of semantic theory. Based on Lewis (1973), she takes causation to be a counterfactual relation between two propositions. The definition is counterfactual because it means that a proposition "s_1 causes s_2 if and only if both s_1 and s_2 occur but would not have occurred if s_1 had not occurred" (Wunderlich 1997a: 35). Already Dowty observes that 'stative causatives', i.e. a causation relation between two states, are in general possible under this counterfactual definition, since Lewis "does not assume a relation of temporal priority between cause and effect" (Dowty 1979: 109). Dowty's stative causative example in (347) illustrates this point.

(347) Mary's living nearby causes John to prefer this neighborhood.
(Dowty 1979: 103, (122))

Consequently, Rothmayr concludes that "the causation relation is not limited to (occurrences of) events, but includes occurrence of states as well" (Rothmayr 2009: 44) because the cause and the effect could hold simultaneously. Stative German ObjExp verbs are one of the verb classes Rothmayr (2009) discusses as examples of such stative causative verbs besides *threaten* verbs, dispositional and perception verbs as well as verbs of instrumental alternation. As Rothmayr (2008: 197) points out verbs like *ärgern* 'annoy' in (348) express that an experiencer participant, in this case the car driver, is in a state of anger/annoyance he would not be in if there was not a traffic jam, i.e. if the road would be free. This is exactly the kind of counterfactual causative relation between two states. In other words, the existence of the traffic jam causes the state of annoyance the driver experiences.

(348) Der Stau ärgert den Autofahrer.
the traffic.jam annoys the car.driver
'The traffic jam annoys the driver.'

Rapp (1997, 2001a, 2001b) argues as well that the defining property of ObjExp verbs, which she calls *psychologische Wirkungsverben* 'psychological impact verbs', is that they are always causative, and can also be stative. Rapp (2001b) argues at length that it is the causative structure of these predicates which sets them apart from other verbs. Additionally, Rapp (1997) explicitly states that some ObjExp verbs, called *zuständliche psychologische Wirkungsverben* 'stative psychological impact verbs', can represent a caused state without a change of state as opposed to standard causative verbs. In the terms of traditional lexical semantic decomposition predicates this means these verbs contain a CAUSE-relation without a BECOME-relation.
Engelberg (2005) makes the point that there exists another kind of relation between a state and some trigger eventuality of this state besides the canonical causative relation, which, for him, necessarily involves temporal precedence of the causing event in a chain of events. He calls this other kind of relation 'supervenience'. While he explicitly points out that 'supervenience' is different from causation, his characterization of 'supervenience' matches in many respects the characteristics of the stative causative relation as discussed here: it is a 'non-dense', counterfactual, non-temporal dependency relation, and the verbs he invokes as primary examples, such as *helfen*-type 'help' verbs, are usually ambiguous between an agentive reading with an animate subject, and a stative reading with a sentential subject. He also briefly mentions stative ObjExp verbs like *ärgern* 'annoy', and *freuen* 'delight', and that these verbs might also be best analysed as containing such a 'supervenience' relation between the states they denote and their triggering eventualities[74]. Engelberg explicitly argues that the 'supervenience' relation is 'non-causal', however, this is basically due to his definition of causation, which equates causation with change-of-state causation. Consequently, if separated from these terminological, and definitional aspects, his arguments, and the characterization of 'supervenience' can also be interpreted as further evidence for the argument that there exists another kind of counterfactual dependency relation besides the canonical change-of-state causative relation, in which the causing event does not temporally precede the caused event but holds simultaneously triggered by another eventuality (see also Neeleman & van de Koot's 2012 argumentation with respect to "verbs of maintenance"). This concept is called 'stative causation' here.

[74] He motivates that conceptually arguing that such an ObjExp verb "involves an immediate step between two spheres of our conception of the world, namely between what happens on the level of perceptible events and the psychological states that relate to it" (Engelberg 2005: 62).

To summarize, there are pretty strong semantic arguments that Class II ObjExp verbs, even in their stative reading, are causative verbs. Conceptually, there is nothing inherent to stative verbs which would rule out that there should not be a stative causative relation. Besides, there are a number of other arguments pointing in this direction: firstly, the indirect evidence from languages with overt causative morphology like Turkish, Japanese, etc., which indicate that Class II ObjExp verbs are causative, even if they are stative as the explicit example of Finnish (see Pylkkänen 2000; Nelson 2000) shows. Secondly, stative ObjExp verbs pass the test of causative paraphrase (see Grimshaw 1990; Van Valin & LaPolla 1997): verbs like *ärgern* 'annoy', *freuen* 'delight', etc. can be paraphrased by predicates of the form *Ärger/Freude machen/verursachen* 'cause annoyance/delight'. Van Valin & LaPolla (1997: 97-110) point out that these verbs fulfil all six of their tests for stative causative forms. Moreover, the paradigm in TABLE 12 shows that stative ObjExp verbs in fact alternate with periphrastic causative constructions expressing emotional and psychological states in German. Whenever there is no ObjExp verb available to express a certain emotion, the gap is filled by a periphrastic causative expressing roughly the same concept for the emotion, which is otherwise denoted by the ObjExp verb, for other verbs congruent ObjExp verbs and periphrastic causatives exist.

TABLE 12: Paradigm of emotional expression in German

Emotional concept	**Stative ObjExp verb**	**Periphrastic causative**
Ärger 'anger/annoyance'	*ärgern* 'annoy'	*ärgerlich machen* 'make annoyed'
Gram 'sorrow'	*grämen* 'sorrow'	–
Angst 'fear'	*ängstigen* 'frighten'	*Angst machen* 'cause fear'
Wut 'anger'	–	*wütend machen* 'make angry'
Trauer 'grief'	–	*traurig machen* 'make sad'
…	…	…

Thirdly, older, or specific regional forms of synonyms or paraphrases of stative ObjExp verbs point towards the fact that these predicates are causative, since the paraphrases and synonyms are clearly causative consisting of a causative light verb: especially in Swiss German, and southern German the verb *wundernehmen* 'puzzle' (lit. 'take wonder') can be used instead of *wundern* 'puzzle' (lit. 'wonder'). Moreover, Grimm's dictionary[75] from the 19th century paraphrases *ärgern* 'annoy' as *ärger und verdrusz machen* 'cause annoyance and fret'.

[75] Accessed via the digitalized version on DWDS <https://www.dwds.de/wb/dwb/ärgern dwds.de>.

Additionally, the behaviour of stative Class II ObjExp verbs with respect to adjective formation strongly points towards the conclusion that these verbs are causative. Based on Ramchand's (2018) observation that causative ObjExp verbs can form two different kinds of adjectives, 'evaluative', and 'psych' adjectives (see 349), the following observations are particularly interesting: while stative Class II ObjExp verbs do not participate in this regular adjectival formation pattern, there are adjectives which are formed by regular adjectival affixation on the basis of the same Root, which is also the basis for the derivation of the ObjExp verbs (see 350).

(349) a. This fact surprises him.

b. This is surprising/ a surprising fact. ('evaluative adjective')

c. I am surprised/ the surprised man. ('psych adjective')

(350) a. Das ärgert ihn.
this annoys him.ACC

b. Das ist ärger-lich/ eine ärger-liche Tatsache. ('evaluative adjective')
this is annoy-SUFFIX/ an annoy-SUFFIX fact
'This is annoying/ This is an annoying fact.'

c. Ich bin ärger-lich. ('psych adjective')
I am annoy-SUFFIX
'I am annoyed.'

d. der ärger-lich-e Mann
the annoy-SUFFIX-NOM.MASK.SG man
'the annoyed man'

The important observation is that the adjectives formed on the basis of stative Class II ObjExp verbs/Roots are ambiguous in the way adjectives formed on the basis of causative ObjExp verbs are: they have the 'evaluative' adjective reading besides the regular 'psych' reading. According to Ramchand (2018) the 'evaluative adjective' interpretation like in (349b/350b) is derived due to the causative meaning component Class II ObjExp verbs generally contain (see discussion in 4.4.4 for more details). If Ramchand's (2018) account is correct, the fact that the adjective in (350b) also has an 'evaluative adjective' interpretation shows that there has to be a causative component involved in the case of the 'evaluative readings' of adjectives like *ärgerlich, wunderlich*, etc. This causative component cannot be contributed by the suffix, since the suffix *-lich* is the same as in many other adjectives which do not show the two different readings at all, such as *end-lich* 'finite', *herr-lich* 'superb', *heim-lich* 'secrete', *natür-lich* 'natural', etc., only if the Root part contributes a causative component the adjective can have such a meaning, as e.g. in non-psych *hinder-lich* 'obstructive'. Consequently, the causative component which is

needed for the licensing of the 'evaluative adjective' would either have to come from the lexical meaning of the item '*ärger'* under a lexicalist perspective, which would consequently have to have two different lexical entries, or, in a decompositional account, the formation of the 'evaluative reading' of the adjective has to include more syntactic structure, which contains the causative meaning component: the latter option would thus mean that the 'evaluative reading' of adjectives like *ärger-lich,* etc. is formed on the basis of the causative ObjExp verb *ärger(n)* 'annoy(INF)', while the 'psych reading' is derived on the basis of the non-causative reflexive SubjExp verb form *(sich) ärger-* 'to be annoyed', or rather the bare Root √ärger. If ObjExp verb *ärger(n)* 'annoy(INF)' was not causative, it is not clear how the evaluative reading should arise for *ärger-lich.* Consequently, the evidence from the two readings of adjectives formed on the basis of the same Root as the stative Class II ObjExp verbs gives important further evidence for their causative structure.

While the aspectual diagnostics in chapter 4 have clearly shown that there is a group of exclusively stative Class II ObjExp verbs in German, the evidence from both detailed semantic studies, and further tests presented in this section point towards the conclusion that these stative verbs are indeed stative and causative, as has been argued for German by Brandt (1979), Rapp (1997, 2001a, 2001b), Rothmayr (2008, 2009), and for other languages (see Pylkkänen 2000; Arad 1998a, 1998b; Biały 2005; Levin & Rappaport Hovav 2005; Fábregas & Marín 2015). The stative causative relation these verbs denote is, however, clearly different from the causative relation denoted by change-of-state verbs, which has a number of consequences for their behaviour (see e.g. Alexiadou & Iordăchioaia 2014a on nominalizations of psych verbs). Stative causation differs from eventive causation with respect to its temporal structure: while eventive causation describes the bringing about of a change-of-state, which is a separate event preceding the result state it caused, and therefore involves temporal precedence of the causing event, the stative causative relation is one of temporal simultaneity which leads to an identification of these events.

5.2.3.4. Similarities and differences between stative ObjExp verbs

A Landau (2010)-like analysis of the stative Class II ObjExp verbs seems to be the reasonable consequence of the results of the empirical analysis of these verbs in chapter 4. To summarize briefly, the behaviour of stative ObjExp verbs has turned out to be different from canonical internal direct accusative objects with respect to a number of grammatical phenomena, while all other ObjExp verbs pattern like the canonical direct objects. To the contrary, the stative

Class II ObjExp verbs behave similar if not identical in many ways to the Class III dative ObjExp verbs. Like the dative ObjExp verbs, the stative accusative Class II verbs do not passivize, neither their past participle nor their present participle can be used attributively, and their experiencer argument is not available for 'topic drop/deletabilty'/'pronoun zap' constructions. Stative accusative ObjExp verbs furthermore behave differently from internal direct accusative objects with respect to nominalization, topicalization with the past participle, and 'object drop', which is all possible with regular internal direct objects, and all other ObjExp verbs but not with stative Class II ObjExp verbs. On the basis of this evidence, a first conclusion is that stative Class II ObjExp verbs are not canonical internal objects. If the fact that Class III ObjExp verbs do not passivize is taken as evidence for their unaccusative or ergative structure, as argued for in 5.2.2, the inability to form verbal passives should tell us that stative Class II ObjExp verbs are as well 'unaccusative', or rather 'ergative', in this sense, i.e. that they lack whatever feeds verbal passivization. Under the theoretical approach taken here, this means they lack a Voice projection. While their inability to form adjectival passives is related to their stativity, it also points towards the conclusion that these experiencer arguments are not internal direct objects, which is supported by a number of other diagnostics, especially the observation that they cannot be used attributively with the past participle. Consequently, the interim conclusion is that experiencers in stative Class II ObjExp, like the dative experiencers of Class III ObjExp verbs, are not internal direct objects as opposed to 'affected argument experiencers' in nonstative Class II ObjExp verbs, which are regular direct objects.

However, for all the similarities, there are also a number of differences between Class II ObjExp verbs and Class III ObjExp verbs, which are in line with the differences discussed for other languages like Italian or Spanish in 5.2.3.1. Such differences are, however, unexpected under Landau's (2010) analysis, and cannot be accounted for by it. In German, the first obvious difference is morphological case. Yet, even though this is the difference which catches the eye most easily, this might be the least important one since case alternations with psych verbs in both directions, from dative to accusative and vice versa, have been well-attested diachronically in the literature for centuries, in fact, some ObjExp verbs even synchronically alternate between accusative and dative marking of the experiencer like e.g. *mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *dünkt* 'methinks', *mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *ekelt* 'disgust', *mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *graut* 'terrify', *mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *graust* 'shudder', *mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *gruselt* 'shudder', '*mir*$_{\text{DAT}}$/*mich*$_{\text{ACC}}$ *schaudert* 'shudder', etc. (see Wegener 1985; von Seefranz-Montag 1983). Consequently, Wegener (1985: 180) concludes that the difference between accusative and dative is neutralized for these psych verbs such as √PSYCH verbs.

Secondly, and more importantly, there seem to be differences with respect to the 'unmarked canonical word order'. Even though the issue is rather complicated, the simplified summary is, in a nutshell, that, only for dative Class III ObjExp verbs, there is robust evidence that their unmarked word is dative before nominative, while this does not hold for accusative ObjExp verbs – at least not to the same degree. The complete story is rather complicated, not least because it is couched in one of the central debates in German syntax. As already pointed out before, even though there are very few absolute restrictions on word order variation in German, since Lenerz's (1977) and Höhle's (1982) seminal work, the standard view has been that different word order linearization have to be interpreted in comparison to a 'canonical unmarked word order'. There are basically three views in the theoretical literature on how this unmarked word order of a sentence is determined (see Bader & Häussler 2010): either unmarked word order is taken to follow from the main verb of a sentence in connection with its lexical semantic properties, especially its semantic role hierarchy (see Lenerz 1977; Haider 1993; Haider & Rosengren 1998; among others), or unmarked order is considered to be a result of optimality-theoretic competition between a set of word-order constraints (see Müller 1999; Heck 2000), or, thirdly, several different serializations are considered to be base-generated, i.e. that there are different options for base-generated configurations (see Fanselow 2003b). Especially under the latter two approaches, word order differences as a tool to identify argument hierarchies is seen rather critically (see Fanselow 2000a; Hoberg 1981). Nevertheless, debates about word order linearization, and free constituent order in German have been prominent in syntax discussions, the fact that "all available theoretical approaches within generative grammar have [already] found their advocates" (Haider & Rosengren 1998: 4) is a colourful illustration of that. The debate about word order in German is complex for a number of reasons: the different theoretical views on how unmarked word order is determined also imply different approaches to the question of how to derive word order differences in the 'marked order', i.e. whether, and what kind of scrambling should be assumed, and which factors are relevant for it (see Müller 1999, 2004; Haider & Rosengren 2003; Fanselow 2003a, 2003b, 2012). While this is a complex debate in its own right (see Petrova 2015 for a recent overview), the central insights for the purpose of this study are the following: firstly, there seems to be a contrast with respect to unmarked word between the dative Class III ObjExp verbs, and accusative Class II ObjExp verbs as the Haupt et al.'s (2008) experimental findings show. However, secondly, an important caveat is that the evidence is rather limited. In the theoretical literature, two different views on word order of German ObjExp verbs are argued for, mostly because of the broader theoretical argumentation of the general syntactic models, which are represented by the different authors:

on the one hand, Haider (1993), Haider & Rosengren (2003), and Bayer (2004) argue that all ObjExp verbs alike, i.e. both dative and ***all*** accusative ObjExp verbs, have the canonical word order of object before subject, i.e. dative≫nominative for Class III, and accusative≫ nominative for Class II, which follows from the semantic hierarchies involved in the derivation of these verbs(, and the way 'branching and discharge' are conceptualized to proceed in the case of Haider (2000a, 2000b)). Consequently, such approaches argue that all ObjExp verbs have the unmarked word order dative/accusative≫nominative. To the contrary, Fanselow (2000a, 2000b, 2003b) rejects such claims for a number of reasons, which will be discussed in more detail below. He argues that only Class III ObjExp verbs have the unmarked word order dative≫nominative, whereas accusative Class II ObjExp verbs follow in general the canonical nominative≫accusative order. The results of empirical studies on word order (see Hoberg 1981; Kempen & Harbusch 2005; Haupt et al. 2008; Bader & Häussler 2010) seem to contradict the strong claim about the unmarked word order of accusative≫nominative for ObjExp verbs, since only for dative objects considerable evidence for object-before-subject order could be found, e.g. in Hoberg's (1981) case in 25% of all sentences with a dative, while for accusative objects the order of subject before object was dominant in 99% of all cases. Also in Bader & Häussler (2010), 93,5% of object-before-subject examples in the middlefield[76] were dative objects. However, these results reflect general ordering of dative and accusative objects, not ObjExp verbs in particular, yet they point into the direction that the claim about datives seems to have a stronger empirical foundation. Two more recent corpus studies focussing on ObjExp verbs in particular show divergent results: Verhoeven (2015) reports a moderate preference for object-before-subject ordering with accusative ObjExp verbs in the middlefield if the object is animate and the subject is inanimate, whereas Ellsiepen & Bader's (2018) corpus study shows a 77% preference for subject-before-object order for the same ObjExp verbs. While the exact interpretation of these results is far from clear, not least because the number of sentences with ObjExp verbs in both studies is not large, and preceding discourse might have a strong influence

[76] This terminology is based on the linear syntactic analysis of the German sentences in the 'topological model' (*Topologisches Feldermodell*), based on the work of Herling (1821, 1830, 1832), Erdmann (1886), Drach (1937), and Höhle (1986) (see Pafel 2011), in which the sentence is structured around a 'bracket' as in (i).

(i) Topological model

Clause type	**Prefield** (SpecCP)	**Left Bracket** (C°)	**Middlefield**	**Right Bracket** (verb cluster)
V2	*Anna* Anna	*hat* has	*gestern einen Brief* yesterday a letter	*geschrieben* *written*
Verb-end		*dass* that	*Anna gestern einen Brief* Anna yesterday a letter	*geschrieben hat* written has

on the results, as Ellsiepen & Bader's (2018: 30) point out themselves, the results at least disconfirm the strong claim that ***all*** accusative ObjExp verbs have accusative before nominative as unmarked word order, while it is – at least – rather probable that the order dative before nominative is the unmarked word order for dative Class III ObjExp verbs. This is also underscored by an experiment with ObjExp verbs investigating the effect of surface constraints on the order of arguments in the middlefield by Ellsiepen & Bader, whose results show a "preference for S[ubject]O[bject] orders, thus confirming that with accusative objects, case takes precedence over thematic role and animacy" (2018: 22). However, a last caveat has to be mentioned: none of these studies considered the (aspectual) differences within accusative ObjExp verbs but treated these verbs as one group. Nevertheless, two conclusions can clearly be drawn from this: firstly, the strong claim that ***all*** accusative ObjExp verbs have the unmarked word order accusative≫nominative cannot be maintained but has to be rejected. And, secondly, there is robust evidence only for dative Class III ObjExp verbs that their unmarked word order is dative≫nominative, especially based on Haupt et al.'s (2008) empirical findings. Finally, even though the empirical picture is complex, the results clearly show that dative and accusative ObjExp verbs differ with respect to their word order properties. This conclusion is also strongly supported by the results of empirical work such as Temme & Verhoeven (2016), which shows that there is a difference for 'experiencer fronting' between accusative, and dative ObjExp verbs, which can most probably be traced back to different base order linearizations.

Moreover, a third difference between dative and accusative ObjExp verbs cannot be ignored, whose empirical evaluation is clearer, however, whose theoretical background is also quite puzzling. Fanselow (1992, 2003b) points out based on observations by Sternefeld (1985), and Grewendorf (1989), that there is a contrast between accusative ObjExp verbs, and dative Class III ObjExp verbs, which also holds for stative Class II verbs with respect to subject control infinitives as (351, based on Fanselow 2003b: 204, (20b)) demonstrates.

(351) a. $PRO_{*arb/i}$ sich auf sie zuzubewegen würde den Polizisten$_i$ gefallen
REFL towards them to move would the policemen.DAT appeal.to
'it would appeal to the police if one retreated now'

b. $PRO_{arb/i/j}$ sich auf sie zuzubewegen würde die Polizisten$_i$ ärgern
REFL towards them to move would the policemen.ACC annoy
'it would appeal to the police if one retreated now'

An arbitrary interpretation of the PRO-subject of a subject infinitival clause is only possible for the Class II ObjExp verbs but not for the Class III ObjExp verbs. While the stative accusative

ObjExp verb can have both an arbitrary control reading, or a reading in which the experiencer argument of the matrix clause controls PRO, for the dative ObjExp verbs only the second reading is available. Therefore, Fanselow draws the conclusion that the two groups of ObjExp verbs have to have different syntactic structures, since "the PRO argument of an infinitive may be left uncontrolled only if the infinitive fill the structurally highest argument position" (2003b: 203). In other words, to account for this phenomenon the two groups have to differ with respect to their syntactic structure, and in the case of the accusative ObjExp verbs the non-experiencer argument has to be in the "structurally highest argument position." Similar effects and differences between stative Class II accusative ObjExp verbs and dative Class III ObjExp verbs can also be observed with respect to weak *wh*-indefinites, and focus properties of these constructions. All of these phenomena will be discussed in depth in 5.2.3.6, since they provide the evidence for the kind of raising analysis which will be argued for here. For now, it suffices to summarize that the phenomena related to arbitrary interpretation of PRO in subject infinitival clauses, as well as their behaviour with respect to weak *wh*-indefinites, and their focus properties show that there are significant differences between stative accusative Class II ObjExp verbs, and stative dative Class III ObjExp verbs besides all the similarities discussed in chapter 4.

Finally, another difference which has already been reported in chapter 4 is to be mentioned again: while the dative Class III verbs (both in German as in English) can undergo 'object drop' like all other nonstative Class II ObjExp verbs, stative Class II verbs are infelicitous in object drop constructions.

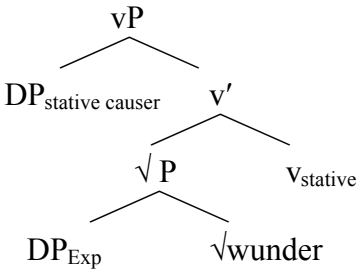
To summarize, the discussion of the phenomena case, unmarked word order, (arbitrary) control of subject infinitives, weak *wh*-indefinites, focus properties, and object drop has shown that the view that stative accusative Class II and dative Class III verbs really have completely identical syntactic structures, as Landau's (2010) account assumes, cannot be maintained. Consequently, an analysis of the stative Class II ObjExp verbs cannot simply assume the same unaccusative structure for these verbs as for the dative Class III ObjExp verbs, especially since this cannot account for many of the properties observed, above all the fact that Class II ObjExp verbs are stative and causative.

5.2.3.5. Analysis of stative Class II ObjExp verbs

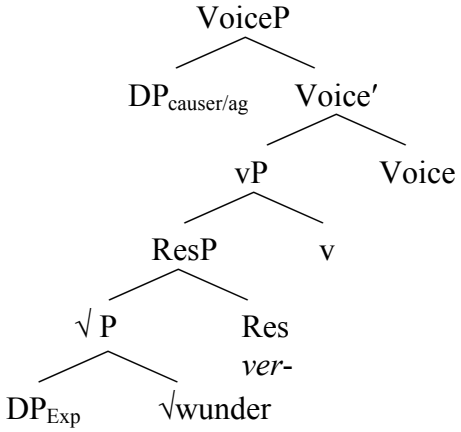
Given the central finding that some Class II ObjExp verbs are indeed causative and stative, an analysis along the proposal by Arad (2002) appears to be a natural first option to explore, since

Arad explicitly formulates the concept of 'stative causation' in her account, and gives an analysis of this phenomenon in a decompositional framework. However, the discussion in 5.2.3.2 has revealed as well that Arad's original analysis faces a number of severe problems, and, consequently, has to be adjusted if it is to be used, and its general insides are to be kept. These central ideas of her account are, firstly, that all psych verbs are accounted for on the basis of non-raising analyses. None of the forms is derived from another one. Secondly, all experiencer arguments are standard objects, i.e. they are arguments of the Root they are merged with. This is how they get their interpretation as 'experiencers', which is, however, not to be understood as a thematic concept in her account but rather as a descriptive label with no greater theoretical importance attributed to it. The difference between eventive and stative causative ObjExp verbs is derived from the differences between the functional morphemes a Root is merged with. Besides the standard eventive little *v* head, a stative little *v* head exists as well. Implementing these central principles, and adjusting for the problematic assumptions (as pointed out in 5.2.3.2) an analysis along such lines for the stative causative Class II ObjExp verbs could look like in (352), the nonstative ObjExp verbs would follow as in (353-354).

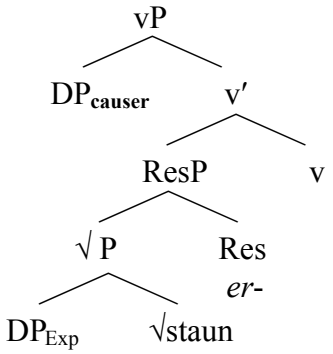
(352) Stative causative Class II ObjExp verbs (under an adjusted Arad-like approach)



(353) Accomplishment-like Class II ObjExp verbs (under an adjusted Arad-like approach)



(354) Eventive (achievement-like) Class II ObjExp (under an adjusted Arad-like approach)



While such an analysis could account for the fact that stative Class II ObjExp verbs are stative and causative, it has a number of serious drawbacks: first, the crucial observation about the behaviour of √PSYCH Roots in German can hardly be adequately modelled in such an analysis. The fact that these √PSYCH Roots behave like 'stative (manner) modifier' Roots, and, especially, that they can only form change-of-state causatives in combination with a prefix, means that one either has to abandon the central principle that experiencers are always arguments of the Root, or has to assume a rather dubious structure involving a result phrase on top of a Root phrase like in (353-354), to account for the morphosyntactic facts in German ObjExp verbs, contrary to the usual assumption that the RootP contributes the result phrase on its own. Moreover, given that the √PSYCH-RootP in (352) has to provide a state in order to trigger the interpretative rule which derives the causative semantics, it is totally unclear why the same √PSYCH-RootP cannot be embedded under an eventive v head providing the result state in a change-of-state causative as state Roots usually do but needs a prefix in these structures. This difference would have to be lexically marked somehow in such an analysis stipulating that the √PSYCH have a special distribution. Secondly, the very assumption that the experiencer is an argument of the Root itself is conceptually far from being unproblematic, since the question of whether Roots take arguments in general is one of the controversial questions within decompositional approaches (see e.g. Acquaviva 2009; Harley 2014; Alexiadou 2014a; Lohndal 2015; De Belder & van Craenenbroeck 2015; among others). Thirdly, a more empirically rooted concern about such an analysis is that it loses the observed differences stative ObjExp verbs show opposed to eventive ObjExp verbs, and canonical direct object verbs with respect to their empirical behaviour and properties: given the similarities of the structure in (352) to the structures in (353-354), these differences cannot be explained straightforwardly. Moreover, such an approach cannot account for the observed similarities between stative Class II and stative Class III dative ObjExp verbs either: since Class III ObjExp verbs are unaccusative, i.e. DAT–NOM verbs in German (as shown in 5.2.2), they have to have a clearly different structure from the structure for stative causative

verbs in (352), which, to the contrary, shows clear parallels to canonical NOM–ACC verbs. Consequently, there is no way to account for the observed empirical similarities between stative accusative and stative dative experiencer objects, apart from postulating that they all merely result from the stativity of these verbs, which has been shown to be empirically inadequate.

To sum up, while a non-raising analysis modelled on Arad's (2002) central ideas offers a possible way to deal with the problematic group of Class II ObjExp verbs, which are causative and stative, the price for such an analysis of the stative causative verbs appears to be too high: too many of the central empirical observations such as the status of √PSYCH Roots in German, and the similarities between stative accusative Class II and stative dative Class III verbs as well as the differences between the stative and nonstative Class II ObjExp verbs cannot be captured under such an approach.

Therefore, the starting point for an analysis of these verbs has to be rather a more Landau-inspired analysis, which assumes basic parallels between stative Class II and stative Class III ObjExp verbs because they share some part of their syntactic structure. This means an analysis which follows Landau's (2010) inside that the experiencer-argument in stative ObjExp verbs is different from the experiencer-argument in nonstative ObjExp verbs. Not least because this is basically the central observation of the empirical analysis of German psych verbs in chapter 4.

TABLE 13: Empirical differences between stative and nonstative Class II ObjExp verbs

	Nonstative Class II Change-of-state	**Stative Class II stative causative**	**Stative Class III unaccusative**
Morphological complexity	complex	simple (just a root)	
Adjectival passive	yes	**no**	**no**
'Split stimuli'	yes	**no**	**no**
Verbal passive	yes	**no**	**no**
Agentive reading	yes	**no**	**no**
Attributive use past part.	yes	**no**	**no**
Adjectival use present part.	yes	**no**	**no**
'Topic deletability'	yes	**no**	**no**
'Object drop'	yes	no	yes
Topicalization with past part.	yes	**no**	**no**
Nominalizations	like direct object accusative	**not like direct object accusative**	**not like direct object accusative**
RS-interpretation of *for*-adverbials	yes	**no**	**no**
in-adverbials	yes	**no**	**no**
-ung nominalizations	yes	**no**	**no**
durative adverbials	only iterative	**yes**	**yes**

TABLE 13 summarizes the empirical results, which highlight the differences between stative and nonstative Class II ObjExp, and the parallels between stative Class II and Class III ObjExp verbs, which have to be accounted for. This summary clearly shows that with respect to many of the diagnostics discussed in chapter 4, stative accusative Class II ObjExp verbs do not behave like nonstative Class II ObjExp verbs, whose empirical behaviour is almost identical to canonical change-of-state verbs in all of these tests. The experiencer-argument in stative Class II ObjExp verbs, however, behaves rather like an indirect goal argument: stative Class II ObjExp verbs cannot form adjectival passives because they do no fulfil the prerequisites of having (i) change-of-state, and (ii) a direct object. Their past participle cannot be used attributively with the experiencer-argument, they are infelicitous in 'topic drop' constructions just like datives, and are not available for 'object drop'. Besides, they do not behave like internal direct objects with respect to nominalizations. In all these diagnostics, stative Class II ObjExp differ from standard direct objects, and all other Class II ObjExp verbs, which pattern alike.

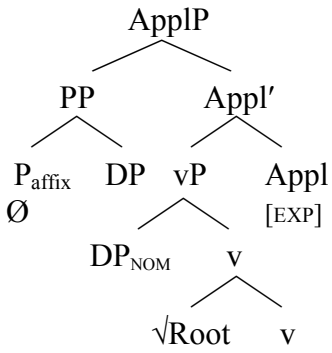
Consequently, the conclusion to be drawn on the basis of these empirical facts is that experiencer-arguments in Class II ObjExp verbs are internal direct objects, except for the stative Class II ObjExp verbs, whose accusative experiencer-arguments are not internal direct objects but in many respects similar to dative experiencer-arguments in Class III verbs. Landau's (2010) analysis basically builds on this idea, even though he does not substantiate this insight empirically but derives it theoretically on the basis of his assumptions postulating a completely identical structure for stative Class II and stative Class III verbs, which differs only with respect to the preposition (P_{DAT} vs. $Ø_{\Psi}$) involved. This means both groups of verbs are unaccusative. While this idea seems to be necessary to account for the facts summarized in TABLE 13, it is clearly problematic in the light of the other facts discussed in the previous sections, i.e. the observation that Class II ObjExp verbs are both stative and causative, and not truly unaccusative. Besides, the number of problems Landau's analysis is confronted with as discussed in 5.2.1.1 makes it necessary to adjust the analysis as well in order to keep the central idea of the parallels between stative Class II and stative Class III ObjExp verbs. The central problems an analysis has to deal with are, firstly, that case on the experiencer argument cannot be inherent case in general as Bondaruk et al. (2017a), and Bennis (2000, 2004) have shown. And, secondly, the insight that besides the many similarities between stative Class II and stative Class III verbs, there are also significant empirical differences between these groups of verbs (in German but also in other languages), which have to be accounted for, as the discussion in the previous section has shown. Consequently, an adequate analysis has to achieve three objectives simultaneously: it has to account for (i) the similarities between stative (dative and

accusative) ObjExp verbs, (ii) the differences of these in comparison to nonstative ObjExp verbs, and (iii) the differences between stative accusative Class II and stative dative Class III ObjExp verbs. The insight that the stative Class II ObjExp verbs are both stative and causative turns out to be both a big challenge for any analysis, and the key to the kind of analysis which will be developed here.

The analysis proposed here follows Pylkkänen's (2000) central idea that the fundamental differences between stative and nonstative ObjExp verbs detected in the empirical analysis, and their different semantic interpretations have to have consequences for the analysis: the two different kinds of verbs can only be accounted for adequately if two different kinds of analyses are assumed: while a non-raising analysis on a par with standard change-of-state causatives can account for the behaviour of nonstative ObjExp verbs (see 5.1), a raising analysis is needed to capture the empirical behaviour of stative causative Class II ObjExp verbs. Only such a raising analysis allows to account for a number of observed properties of these verbs (see especially 5.2.3.6), which separate them from stative dative Class III ObjExp verbs, while it allows to maintain the central idea that all stative ObjExp verbs, both dative and accusative, share the same basic structure, which explains the empirical facts summarized in TABLE 13.

In more detail this means that stative Class II ObjExp verbs have the same basic structure like dative Class III ObjExp verbs. Given the almost unanimous consensus about the analysis of the dative Class III ObjExp verbs as applicatives as repeated in (355), this means the experiencer of the stative Class II is also introduced by an Appl head resulting in a configuration in which the experiencer is not an internal direct object but resembles structurally a dative/possessor/benefactive, or goal-like object.

(355) Class III dative ObjExp verbs



Given the fact that stative Class II ObjExp verbs (like the dative ObjExp verbs) do not form verbal passives, their structure is 'unaccusative' in the sense that they do not contain a Voice layer, which both introduces the external argument, and is a prerequisite for passivization under

the Voice hypothesis (Kratzer 1996). Consequently, the stative Class II ObjExp verbs are 'double-object unaccusatives with accusative case' (see den Besten 1985; Bennis 2004; Myler 2013). This combination of accusative case in the absence of an external argument clearly constitutes a violation of a well-establish linguistic principle, Burzio's Generalization (see 356).

(356) Burzio's Generalization (1986: 178)
All and only the verbs that can assign a θ-role to the subject can assign accusative Case to an object.

However, it has been argued numerous times before in recent studies that there are issues with (elements) of Burzio's Generalizations, which need adjustment, if it is not to be rejected at all (see Haegeman 1986; Woolford 1993, 1997, 2003; Hasegawa 2001; Myler 2013; among others). I follow Bennis' (2004) account, who proposes to label these verbs 'complex ergative' verbs because of these properties: 'complex ergative verbs' do not have canonical external arguments, i.e. they do not involve an active Voice head (with a [+D][77] feature) but their two arguments are both objects (see also Drijkoningen 2000[78]). In traditional terms, these arguments are experiencer, and theme/object of emotion. The basic configuration of the arguments in Class II ObjExp verbs is the same as in Class III ObjExp verbs, like in Landau's (2010) analysis. However, what is different about complex ergative verbs is that they contain an additional element of causation in the absence of an external argument. These verbs are 'non-agentive causatives' in the sense of Hasegawa (2001) because they lack an external argument, and additionally, they are 'non-change-of-state' causatives as described by Pylkkänen (2000), and Arad (2002), because they are stative and do not contain a change of state. The temporal sequence of the causing eventuality is different from change-of-state causatives: these verbs do

[77] There are different views as to whether such unaccusative constructions are best represented by the complete absence of Voice, or a system in which Voice is always present however with a [–D] feature for such constructions, which prevents it from introducing a DP in its specifier (see e.g. Wood 2015; Oseki 2017; Oseki & Kastner 2017). Since this is a theoretical question in its own right, but nothing seems to hinge on it for the analysis here, I remain agnostic about that, and stick to the version without a Voice head for the sake of simplicity.

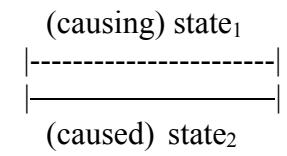
[78] Drijkoningen (2000: 76, (26)) argues that ObjExp are not a homogeneous group, and proposes a similar analysis, he also distinguishes "classical ergativity" as in Class III ObjExp verbs as in (i) from "second type ergativity", which is characterized by the presence of a Caus projection, to whose Spec-position the Theme-Causer is raised (see ii). Accusative on the experiencer is accounted for by Exceptional Case Marking by Caus.

(i) Experiencer Object (classic ergativity)
[--- AgrS [$_{VP}$ Experiencer [V_{unacc} Theme]]]
\----------/

(ii) Experiencer Object (second type of ergativity)
[--- AgrS [--- Caus [$_{VP}$ Experiencer [V_{unacc} Theme]]]]
\--------- /\----------/

not consist of a causing event, in which an external causer brings about a change of state, but they express the parallel causing of a state by another state as depicted in (357), in which the cause(r) has to be present for the caused state to hold.

(357) Temporal sequence of stative causative verbs



This structure, which distinguishes stative causative verbs from change-of-state causatives, is derived by the raising analysis: stative causers are not introduced in Spec,VoiceP, or Spec,vP as opposed to the change-of-state causers but are underlyingly subject matter arguments which are raised to Spec,vP, where they are licensed, and, thus, get their interpretation as causers, i.e. more precisely under the Configurational Theta Theory perspective adopted here this means these arguments are interpreted as subject matter and causer arguments at the CI-interface because they occupy these two positions in the syntactic derivation. The argument which ends up as the causer is also the subject matter of the caused emotion, which explains why this element has to be present in the caused state, since it is simultaneously the content of emotion. Furthermore, such a raising analysis captures the constraints on the subjects of these verbs, which are always to be interpreted as propositional, even if they denote individuals: in case an individual is the subject of stative causative ObjExp verbs like *Anna ärgert mich* 'Anna annoys me', the subject always has the meaning that it is something about the individual, or the fact of its existence, which causes the emotion. In traditional terms: it gets assigned the theta role of theme, or object of emotion[79], while the causer role results from the syntactic structure. Such an analysis can also account for the observation by Wechsler (1995) that very few ObjExp verbs are also subject to the "Notion Rule", i.e. the experiencer must have a 'notion' of the content of the emotion (see 2.1.2.2). As it turns out the English ObjExp verbs which according to Wechsler fall under the Notion Rule are exactly among those very few verbs which are reported to be exclusively stative in English (see Pesetsky 1995: 30). The explanation for this under a raising analysis is straightforward: these verbs fall under the Notion Rule because the causer is not only a causer for these verbs but also the content, or subject matter of the emotion, as opposed to the nonstative readings which allow for a separation of these two roles as Pesetsky

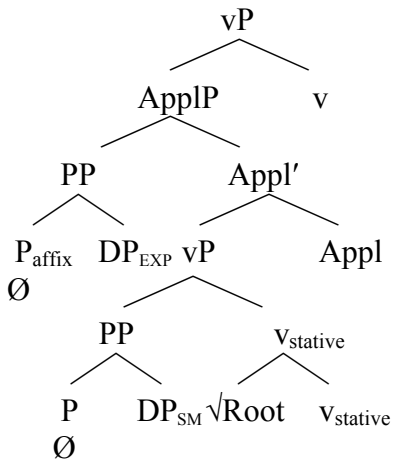
[79] Therefore, Wunderlich (1985), for instance, classifies these verbs under the label of 'Theme verbs' because he argues that their subjects always bear the thematic role of Theme.

(1995) argues (see 2.1.2.3). The stative causative ObjExp verbs in German are all subject to the Notion Rule in the sense that the cause of the emotion simultaneously has to be the content of the emotion at the same time.

While there are different ways to implement the basic idea of such a raising analysis (see also Pylkkänen 2000; Cheung & Larson 2014; Wiland 2016), the crucial core behind it is the same: all stative ObjExp verbs show the same basic configuration, in which the experiencer is base-generated higher than the second argument, the subject matter of the caused state. Due to raising of the subject matter to a position higher in the syntactic structure it acquires a 'second theta role', and is, thus, both the content and the cause of the emotion (see Reinhart 2002 for a similar basic idea in a totally different framework), while the experiencer has 'two roles' as well: it is the 'holder experiencer' of the caused state, and the causee in the causative relation.

The concrete implementation of such a raising analysis is represented in (358), which shows the same basic configuration of arguments as for the dative Class III verbs, however with an additional stative v-layer on top, which introduces causative semantics on the basis of the general interpretation rule, according to which every v head is interpreted as causative at the CI-interface if it combines with a stative or eventive complement (see Wood 2015: 28).

(358) Basic structure: stative causative Class II ObjExp verbs



This structure shows parallels to what has traditionally been called 'periphrastic causatives', however, with a lexically empty causative light verb v (see Belletti & Rizzi 2012; Larson & Cheung 2008 for a somehow similar approach to these verbs as 'triadic unaccusatives'). Therefore, incorporation of the complex head Appl-$v_{stative}$ into v happens (see Hale & Keyser 2002) triggered by the need of the silent subject matter preposition Ø to incorporate in order to be licensed. The theoretical background of this approach is a view that the traditionally assumed strict distinction between 'lexical or periphrastic' causatives, formed in the lexicon, and

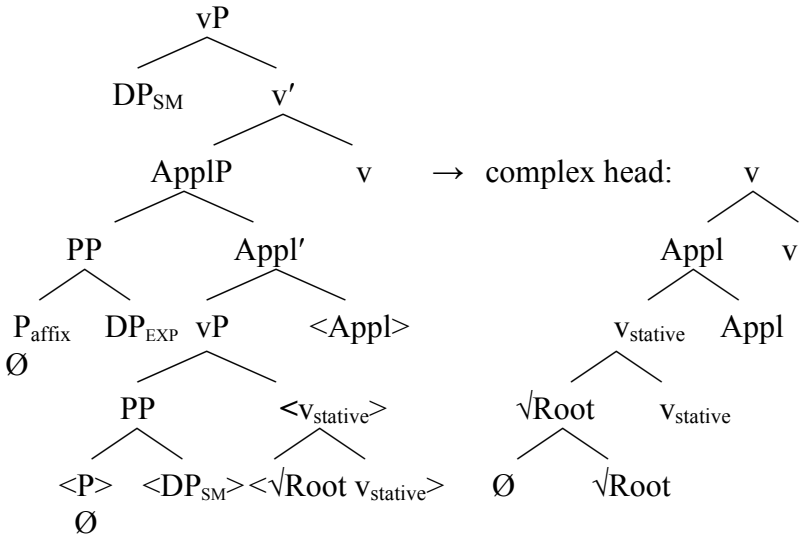
productive causatives, which are formed in the syntax, should not be maintained (see Hasegawa 2001). It has been challenged in Minimalist approaches, especially by Pylkkänen (1999, 2002, 2008), who argues that both types of causatives are formed compositionally in the syntax. Tubino Blanco's (2011) cross-linguistic study adds further evidence that not only different languages show different causative constructions, but that the same language can exploit different syntactic constructions to express causation. Many approaches (see Rosen 1989; Guasti 1992, 1993, 1996; Baker 1988; among others) consider the causative *make/faire/fare* element of periphrastic causatives to be a light verb, and generally assume that the embedded lexical verb incorporates into the light verb to form a complex predicate. Especially in the work of Hale & Keyser (1993, 2002), and approaches following them, the concept of light verbs has also been extended to verbal elements without phonological content, which trigger syntactic incorporation of other lexical material with a 'phonological matrix'. An analysis like (358-359) that assumes the light verb to be phonological empty, and, thus, to trigger incorporation of the complex head Appl follows furthermore quite naturally given that the causative light verb of periphrastic causative is often assumed to be a contextually conditioned allomorph of v in Distributed Morphology approaches to periphrastic causatives, such as e.g. Wood (2011).

The raising analysis[80] which applies to this structure is in many ways similar to what Myler (2013) describes for other 'accusative unaccusatives' of the *come the pub* constructions in North Western English, and draws on Myler's implementation of this analysis as well as Wood (2011). The non-experiencer DP is assumed to be introduced by a silent preposition Ø because it is a subject matter of emotion, which is usually licensed by a T/SM preposition in a PP. It ends up in Spec,vP, and is thus licensed, and interpreted as causer. This movement is driven by the need of the inherently silent preposition to incorporate into the verb in order to be licensed (see Den Dikken 1995; 2010), and further movement of this complex head to incorporate into the lexically empty causative light verb v. In a first step, the silent preposition adjoins to the √Root because, most probably due to the ban of multiple adjunction to a single host (see Kayne 1994), $v_{stative}$ cannot serve as an incorporator since it is already the host of the Root adjoined to it, and thus filled by lexical material (see Den Dikken 2007a; 2010: 30-31). Since the Root cannot license $P_{Ø}$, and the silent incorporating preposition and the 'stative (manner) modifier' Root compete for the same adjunction side, P needs to find a licenser higher up in the structure, which triggers further head movement (not least because of the Head Movement Constraint

[80] This can also be linked to Kratzer's (1996: 123) comment about 'ObjExp verbs like *worry*', for which she briefly mentions an analysis under which a preposition is incorporated into Voice to create a causer. Yet since incorporation into Voice is usually assumed to create active Voice heads (see e.g. Alexiadou 2013), which should feed passivization, this analysis is not pursued here.

(see Travis 1984), which forbids that it moves directly to v). Therefore, secondly, the complex head $v_{stative}$ moves to Appl and adjoins to it, which is often independently assumed for such (High)Appl constructions without a morphologically realized Appl head. Thirdly, the complex head which results from this movement incorporates into the phonologically empty light verb by head movement in parallel to what many analyses assumed for periphrastic causatives in general (see Tubino Blanco 2011: 23-28). Now the silent preposition can be licensed by v, and v licenses the DP_{SM} attracting it to its specifier. Such movement across the experiencer is possible without violations of locality because head movement leads to the formation of a complex head v, extends the phase (if one assumes that vP, or ApplP constitutes a phase[81]), and creates equidistance between the experiencer and the DP_{SM} (see Wood 2011; Den Dikken 2007a, 2007b). Consequently, the DP_{SM} can raise to Spec,vP, where it is licensed by the complex head v, and is further 'assigned' the causer interpretation, i.e. it is interpreted as the causer at the CI-interface because it is in the internal causer position and licensed by v, whose causative semantics arise in accordance with the general interpretative rule because it has a stative eventuality as its complement.

(359) Raising structure: stative causative Class II ObjExp verbs



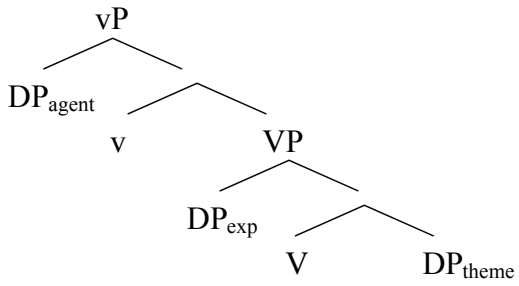
As in Class III ObjExp verbs, the experiencer is licensed by the head Appl (which is also part of the same complex head as v), and is thus interpreted as a 'holder experiencer' because of its occurrence in this syntactic configuration. The movement of the DP_{SM} to Spec,vP is motivated by the need to be licensed, since the DP_{SM} cannot be licensed by the silent preposition. The

[81] Usually unaccusative constructions are considered to constitute one phase only, e.g. in Chomsky (2000), because unaccusative *v* is a phase head that does not trigger spell-out (see Irwin 2012). Yet some accounts consider HighAppl to be a phase head (e.g. McGinnis 2001a, 2008), however, this is not relevant here, since an alternative derivation of the raising analysis is possible under such approaches independently (see fn. 84).

alternative movement of the experiencer to Spec,vP is ruled out because in this case the DP_{SM} could not be licensed, and the derivation would crash because of that. This asymmetry with respect to the possibility of the two arguments to raise to Spec,vP is, independent of this construction, in line with the general asymmetry German shows in other constructions usually analysed as applicatives, in which only the lower DP but not the higher DP can be raised to such a higher position in the derivation: for instance in passives of double objects, in which only the lower accusative can be promoted to the subject position but not the higher dative (see e.g. Platzack 2005; as well as McGinnis 2008 on the same in Dutch).

This basic structure for stative causative ObjExp verbs does not need to be stipulated to deal with these verbs but can in many ways be considered the ergative, or 'unaccusative' counterpart of productive causative structures reported for psych and other verbs, for instance, in languages like Georgian by Nash (2017).

(360) Causatives of psych verbs with low causees in Georgian (Nash 2017: 9, (32))



Nash (2017) reports that many psych verbs in Georgian such as *like* or *detest* are bivalent unaccusatives with a dative experiencer, and a nominative theme, while the causative variants of the type 'make/cause X like Y' are trivalent. The dative experiencer conserves its case, and its hierarchical order with respect to the theme, i.e. transferred to the framework used here: it is introduced by an Appl head. DP_{exp} is a 'low causee' in these verbs, it "is introduced as a subject of VP, like an indirect object in simple ditransitive sentences", and the "dative argument syntactically behaves as an obligatory argument" (Nash 2017: 6). In many ways, the complex ergative structure resembles a version of these causative constructions, however, without an agentive, or external causer subject. Therefore, the subject matter/theme is raised to become the causer subject instead.

Accusative case on the experiencer in the complex ergative structure can be accounted for by Dependent Case Theory. The raising structure in (359) is almost identical to the raising structures Baker (2015: 85-86) reports for 'dyadic unaccusatives' with a possessor/experiencer argument and a theme in languages like Amharic, in which the theme raises across the

experiencer, thus, triggering accusative on the thematically higher experiencer argument. Baker (2014) as well as Deal (t.a.) report similar constructions which show "raising to ergativity" for applicatives of unaccusatives in ergative languages like Shipibo, and Nez Perce as well, in which the lower theme argument of two internal arguments raises above the higher experiencer/affectee argument to become the subject, while the construction does not have an external argument. Baker therefore concludes in general about interactions between movement and dependent case assignment that "the derived subjects of unaccusatives can trigger accusative case (Amharic) and can receive ergative case (Shipibio)", i.e. movement of a lower argument "past an experiencer embedded in a null-headed PP can affect dependent case marking in languages of any alignment" (2015: 293). This means for the analysis in (359) that because of the movement of the DP_{SM} above the experiencer to the position of internal causers, Spec,vP (following Alexiadou 2014b), it ends up in a position c-commanding the experiencer argument, and, consequently, accusative case on the experiencer in (359) can be accounted for under Dependent Case theory (see Marantz 1991/2000; McFadden 2004; Wood 2011) according to the general schema in (361).

(361) If XP bears c-command relationship Y to ZP in local domain WP, then assign case V to XP (Baker 2015: 111, (1)).

Sharing the basic configuration in (358) with the dative Class III ObjExp verbs, the experiencer is embedded under the affixal null preposition. However, as Baker points out, "the null P is intrinsically transparent for dependent case assignment", not least because null Ps are probably non-phase heads: "P does not block c-command in the configuration [NP … [P-NP] … V], where the PP is the lower of the two phrases, although it does block c-command in the configuration [[P-NP] … [NP] … V], where the PP is the higher of two phrases" (2015: 85). Consequently, in the Class III ObjExp verb configuration without the additional v-layer, dative is assigned to the experiencer, and nominative to the subject matter, while the raising of the subject matter DP across the experiencer in the complex ergative structure in (359) changes the c-command relationship, and hence triggers dependent case assignment on the experiencer in accordance with the general principles described by Baker[82]. Consequently, accusative on the

[82] A further argument for this kind of analysis is the existence of ACC–ACC verb constructions in German: not only does German share these constructions with Amharic, but they might be analysed in a similar way: the first ACC in ACC–ACC verbs is marked by a silent P, therefore, it does not get dependent DAT in the [[P-NP] … NP… V] constellation. Once the subject DP is merged, it triggers dependent ACC on the second DP, since v is a "weak phase" in Baker's (2015) terminology, consequently, this ACC is structural, which is supported by the passive data: the second ACC can regularly passivize in ACC–ACC constructions, while the standard way to passivize the first

stative experiencer argument, which appears puzzling given its dative-like behaviour, can be accounted without the need to postulate special lexical inherent case marking for these experiencers. Under such an analysis, the empirical observations about languages like Polish and Dutch, which show that accusative on the stative experiencer arguments is structural case as reported above are no longer a problem but can be accounted for. Furthermore, such an analysis can also provide an explanation for Wegener's (1985: 180) observation that the difference between accusative and dative is neutralized for German psych verbs such as the √PSYCH verbs, and other dative ObjExp verbs: while these verbs share many properties because they share the same basic syntactic configuration, they only differ with respect to morphological case, which follows from the dependent case analysis in the way just described but is otherwise hard to explain.

Conceptually, such an analysis of the stative causative verbs allows us to maintain the central assumption about causative structures in decompositional approaches, i.e. that causative semantics arises as the consequence of a rule at the CI-interface, which interprets the relation between two eventualities as causation. In other words, causation is neither encoded in the lexical entry nor a theta role but arises as the consequence of a syntactic configuration, as it is assumed in much work following Pylkkänen (2002, 2008). Change-of-state causation is conceptualized to result from the interpretation of the combination of an eventive v head, and a stative result phrase (see Marantz 2009, 2013; Schäfer 2012; among others). Since this is not a possible option in the case of stative causatives, stative causative constructions exploit another possibility to express causative meaning: the construction (similar to the one) of periphrastic causatives. This difference can be conceptually linked to, and derived from Rappaport Hovav & Levin's (2012) *Direct Causation Condition* in (362). Based on Wolff's (2003) definition of direct causation in (363), Rappaport Hovav & Levin argue that lexical causatives have to adhere to the *Direct Causation Condition*, which is a kind of filter regulating which verbs can appear in the change-of-state causative alternation (based on their assumption that the single argument anticausative variant is the basic configuration). On the contrary, 'periphrastic causatives' can express direct as well as indirect causation.

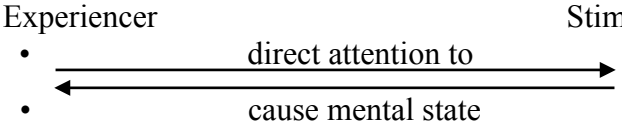
(362) *Direct Causation Condition*: A single argument root may be expressed in a sentence with a transitive verb if the subject represents a direct cause of the eventuality expressed by the root and its argument (Rappaport Hovav & Levin 2012: 166, (24)).

object DP is in a *bekommen* 'get' passive on a par with datives. Den Besten (1985) explicitly draws the parallelism between these stative ACC ObjExp verbs, and ACC–ACC verbs, arguing that they share the same structure, which, of course, is a different one in his Government and Binding approach, yet the insight is the same.

(363) "[D]irect causation is present between the causer and the final causee in a causal chain (1) if there are no intermediate entities at the same level of granularity as either the initial causer or final causee, or (2) if any intermediate entities that are present can be construed as an enabling condition rather than an intervening causer" (Wolff 2003: 4).

Since the experiencer participant does not undergo a change of state caused by the causing entity in the stative ObjExp verbs, it is not affected to the same degree as the causee objects in change-of-state verbs (see Beavers 2011 on degrees of affectedness), which is a direct object, or 'better patient' (Dowty 1991). The experiencer is more 'subject-like' in a way, semantically similar to experiencers of SubjExp verbs (see Reis 1982; Wegener 1985). Pylkkänen (2000) argues that the stative causative verbs entail their corresponding SubjExp verb forms, which is the case for the German stative causative √PSYCH verbs as well, which could be paraphrased as 'CAUSE to *sich* √PSYCH', e.g. *ärgern* as 'CAUSE to *sich ärgern*'. The result of this is that what Croft (1993, 2012), and Kutscher's (2009) model of 'causal bi-directionality' claim for all experiencer arguments in general, seems to be true for the stative experiencers only: there might be an element of reciprocity involved in these verbs (see 364) because the 'holder experiencer' as a kind of subject-like argument perceives and evaluates the emotional input provided by the stimulus, which does not directly take effect on the experiencer as it does with the 'affected argument experiencer' in change-of-state verbs.

(364)



(Croft 1993: 64)

This can also be seen as the stative causative verbs are subject to Wechsler's (1995) "Notion Rule" like SubjExp verbs (see above, and 2.1.2.2): the experiencer has to have a 'notion' of the subject matter, which seems as somehow similar to evaluating it. Thus, the experiencer could be interpreted as an intervening factor "at the same level of granularity" as the final causee in the sense of (363). Consequently, the stative causative verbs would not adhere to the Direct Causation Condition, which explains why they have to fall back on the 'periphrastic' causative construction. This can also be connected to the observations by Engelberg (2005) that the causal chain of these verbs, for which he proposes the concept of 'supervenience' (see 5.2.3.3), is different from change-of-state causatives, since it is 'non-dense' because of this interference due to the evaluation by the experiencer, and since it does not contain a relation of temporal dependency. If one further adopts a perspective like Hasegawa's (2001) and others, as discussed

in 5.1.4, who argue that the distinction between lexical and periphrastic causatives is often blurred, and the meaningful distinction should rather be between agentive, and non-agentive causatives, this option appears to be a natural consequence. Additionally, the different structures can explain the different semantics of the two kinds of causative constructions since these can be derived from the structures: while the semantics of the change-of-state causative follow from the structural configuration that it consists of an event, in which a change of state is brought about by an external argument, which leads to a result state, the stative causative relation consists of two stative eventualities which hold in parallel. This temporal coexistence leads to the co-identification of these two events (see also Biały 2005). In contrast, the relation between the (causing) event introduced by the eventive v head in the change-of-state causative, and its subsequent state is interpreted as temporal precedence, therefore, these verbs contain a result state, which is the *result* of this process, and thus gets the interpretation as *result* or target state (along the lines of Embick's (2009) proposal, see (303) in 5.1.2; and Beavers (2011)).
The crucial driving force of the raising analysis presented in (358-359) is the need of the silent preposition to incorporate to be licensed plus other instances of head movement. The presence of such a silent preposition in stative Class II ObjExp verbs can be argued for on the basis of two pieces of evidence: firstly, subject matter arguments are generally introduced by subject matter prepositions, often in a specific way, which is difficult to predict (see Merchant 2018 on English), not only in German but cross-linguistically as (365) demonstrates.

(365) a. The doctor worried Lucy.

b. Lucy worried *about* the doctor.
(Reinhart 2002: 257, (45))

c. [Der Stau]$_{\text{SUBJECT MATTER}}$ ärgerte den Autofahrer.
the traffic.jam annoyed the car.driver

d. Der Autofahrer ärgerte sich [*über* den Stau]$_{\text{SUBJECT MATTER}}$
the car.driver annoyed REFL about the traffic.jam

Secondly, and more crucially, the stative causative Class II ObjExp verbs in German show a straightforward pattern, which points towards the presence of a silent subject matter preposition in these constructions: only those verbs which have a SubjExp *sich* alternate which licenses the subject matter preposition *über*/*vor* can have a stative causative ObjExp version. Contrary to that, the *sich* SubjExp alternates of change-of-state verbs license canonical causer-PPs with *durch*, as has been shown in 4.2. That there is a vital correlation of the subject matter preposition, and the stative causative form becomes especially clear if one considers the verb

freuen 'rejoice/delight', whose SubjExp *sich* alternate can combine with different prepositions yielding different semantic interpretations as the translations in (366) indicate. Only the form whose SubjExp alternate introduces the non-experiencer argument with the subject matter preposition *über* has a stative causative version as (366b) demonstrates. This fact can be explained if the silent subject matter preposition is the driver of the movement creating the stative causative construction as shown in (358-359)[83].

(366) a. Er freut sich *über* das Geschenk.
he delights REFL about the present
'He is happy about the present.'

b. → Das Geschenk freut ihn.
the present delights him

c. Er freut sich *auf* das Geschenk/Weihnachten.
'He is looking forward to (getting) the present/ to Christmas.'

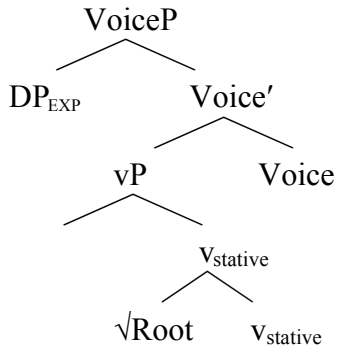
d. → #Das Geschenk/Weihnachten freut ihn.
'The present/Christmas delights him.'

The general idea motivating such a raising analysis is that the fundamental empirical differences observed between stative and nonstative psych verbs are due to different syntactic structures of these two groups of verbs: stative experiencer verbs, i.e. SubjExp verbs like *love, hate,* etc. as well as dative and accusative stative ObjExp verbs, share the same basic structure consisting of a stative vP in combination with an experiencer argument introduced by a functional head (see 367), which is Appl for ObjExp verbs, and Voice for SubjExp verbs. These two heads might both be versions of the more general argument-introducing head *i** as Wood & Marantz (2017) argue. This configuration gives rise to the interpretation of the experiencer as an 'holder experiencer'. Such an analysis is in line with a Configurational Theta Theory (see Hale & Keyser 2002; Borer 2005; Ramchand 2008; Schäfer 2008; among others), which assumes that theta roles are syntactically determined by the configuration arguments are merged in: in this

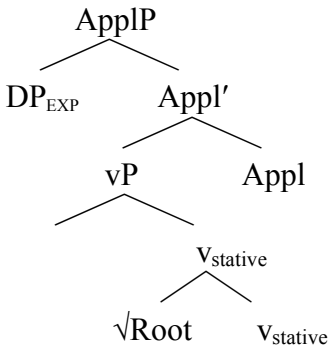
[83] An alternative way to implement a raising analysis of the structure in (358-359) without incorporation of a silent preposition could be achieved by following ideas put forward in McGinnis (2001a, 2008), or Jeong (2007): McGinnis assumes that the HighAppl(P) is a phase (which could be argued for on the basis of parallels between HighAppl and Voice, see Baltin (2012), Aelbrecht (2010) for Voice as a phase head, and basic arguments for this comparison) with a phase-EPP to attract an element to its specifier, which can thus create an escape hatch for a lower direct object DP to move across the higher argument; the same is also possible due to 'skipping'. Jeong's (2007) account is a bit different building on the principle of anti-locality as the central explanatory principle to derive the same results: movement of the lower DP in a HighAppl construction is possible via an escape-hatch derivation, since this is not blocked by anti-locality (as opposed to LowAppl constructions). Consequently, the lower DP embedded in the complement selected by HighAppl can move to Spec,vP without a violation of minimality/locality (see also Anagnostopoulou 2003 for a similar derivation in the context of passives of double-object constructions).

sense, '(holder) experiencer' means the 'external' argument of a stative experienced state, i.e. the argument introduced by a functional (*i**) head externally to the stative eventuality, which describes the psychological state.

(367) a. Stative SubjExp verbs



b. Stative ObjExp verbs



Consequently, experiencers in stative verbs show behaviour like goal/indirect objects of double-object constructions, or possessor/benefactive arguments (see also Baker 1997, 2015), since they basically share the same structural syntactic configuration (see also Bennis 2000), however, with a stative instead of an eventive vP. This explains the empirical behaviour diagnosed in chapter 4: stative experiencer objects behave like datives in many of the diagnostics because they have the same underlying structure, as opposed to 'affected argument experiencers' in nonstative ObjExp verbs, which are (in many ways) canonical direct objects with a fundamentally different syntactic structure. If analysed like that stative psych verbs also show parallels to other stative predicates (see Hale & Keyser 1993, 2002 for the general idea of a fundamental difference between stative and nonstative predicates), i.e. relational adjectives such as *proud of*, which also express their second, experiencer-argument externally, while the subject matter argument is the internal argument of the state denoted by the adjective (see e.g. Arche et al. 2014). In parallel to the distinction between ergative and unergative adjectives (see Cinque 1989, 1990), the split between ergative and unergative stative verbs can be seen as a further parallel. Moreover, analogous to ergative adjectives, ergative stative ObjExp verbs further split into two groups of 'simplex ergative', i.e. truly unaccusative Class III ObjExp verbs, and 'complex ergative', i.e. stative causative Class II ObjExp verbs, following Bennis' (2004) analysis and terminology. The differences between stative SubjExp verbs, whose experiencer argument must be a true external argument, and stative ObjExp verbs, which generated their experiencer argument below the Voice level, could be explained on the basis of the different kinds of stativitiy these verbs involve (see Pylkkänen 2000): individual-level states like SubjExp *love, hate*, etc. have to introduce their argument externally to the vP/VP, while

stage-level predicates like the stative ObjExp verbs do not have to do so, as Diesing (1992), and Kratzer (1995) argue[84].

To sum up, crucially, the fact that stative ObjExp verbs have a common basic syntactic structure, which is different from nonstative ObjExp verbs, explains the different behaviour of the stative and nonstative experiencer-objects, and means more in general that only 'holder experiencers' in stative psych verbs are experiencers in a meaningful sense, i.e. they are different from canonical direct objects, whereas 'affected argument experiencers' in change-of-state verbs are regular internal objects (see Petersen 2016 for a similar conclusion based on a study of Brazilian Portuguese psych verbs). Put in more semantic terms this means that the 'experiencer' arguments in nonstative ObjExp verbs are affected arguments (in the sense of Beavers 2011) like other direct objects of change-of-state verbs, which distinguishes them from the experiencer arguments in stative ObjExp verbs as well as SubjExp verbs, which are not affected to the same degree. This could also be expressed in the terms of a Dowtian (1991) Proto-Role approach: nonstative ObjExp verbs contain the entailment of change of state, which gives their objects an additional Proto-Patient property, and, thus, makes them 'better patients' because they undergo a change of state. On the contrary, stative ObjExp verbs lack such an entailment of change (of state), their experiencers do not undergo a change, and are, consequently, not typical patients, or affected arguments but a different type of arguments. This explains furthermore why the 'holder experiencer' arguments in stative ObjExp verbs have often been diagnosed to possess subject-like properties (see Bayer 2004 for German; Anagnostopoulou 1999 for Greek; Landau 2010 in general), and why many studies claim that there is no, or hardly any semantic difference between the nominative experiencers in SubjExp verbs, and the dative experiencers in Class III ObjExp verbs (see Reis 1982; Wegener 1985, 1998; among others).

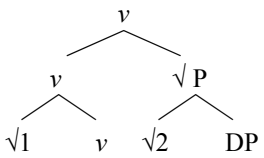
The analysis for stative Class II ObjExp (and the analyses for other psych verb forms as discussed in the previous sections) put forward here can account for all the observed empirical patterns: since stative Class II and stative Class III ObjExp verbs do not contain a Voice layer, they cannot passivize, as opposed to stative SubjExp verbs, which contain an active Voice head, and, consequently, feed passivization (see Kratzer 1996; Bruening 2012). Since the subject of the stative Class II ObjExp verbs is the raised subject matter, i.e. the subject matter and causer at the same time, these verbs cannot occur in 'split stimuli' constructions (see next section for details). The stative causer as raised subject matter is part of both eventualities (the causing and

[84] However, this only holds if the individual-level versus stage-level distinction is relevant in the sense argued for by these authors in general. The status of this distinction, and whether it is grammatically relevant as such, is a matter of some discussion in semantic research in general (see Maienborn 2011, t.a.).

the caused state), consequently, the different causative semantics from change-of-state causative arises. The causer is not interpreted as bringing about a change of state in a separate causing event but as an integral part of the ongoing stative causative relation. The fact that the experiencer argument is also both the holder of the emotional caused state, and the causee in the causative relation, might be the reason why stative causative verbs cannot occur in 'object drop' constructions as opposed to change-of-state causatives. Since the experiencer-argument in stative Class II ObjExp verbs is not a direct object but generated in ApplP, the position of goal/possessor arguments, stative causative Class II ObjExp verbs do not form adjectival passives since applied objects are infelicitous in the adjectival passive (see Wasow 1977; Bruening 2014), and they do not occur in 'topic drop' constructions (like datives) as they share the basic syntactic structure which makes them unavailable. Consequently, their past participle cannot be used attributively because the experiencer-object is not an affected direct object DP. The observed behaviour of √PSYCH Roots can also be adequately integrated in such an account. As the analysis of German √PSYCH and PREFIX-√PSYCH verbs has shown √PSYCH Roots behave empirically like stative ('manner') modifier roots, i.e. they are ontologically different from other (result) state Roots such as e.g. √open. The √PSYCH Roots cannot be embedded directly under an eventive v head to form change-of-state causatives like (result) state Roots. √PSYCH Roots can modify atelic v heads, both in stative as well as in activity verbs (as the examples of *ärgern* 'annoy'*, stören* 'disturb'*, nerven* 'vex', etc. show). √PSYCH Roots can only form telic change-of-state verbs such as *ver-ärgern* 'PREFIX-annoy'*, ver-wundern* 'PREFIX-puzzle', etc. in combination with a prefix, which provides the result component, which √PSYCH seem to lack. In this respect √PSYCH Roots behave exactly like other 'manner' modifier Roots from the non-psych domain, such as *arbeiten* 'work' – *ver-arbeiten* 'PREFIX-work', as has been shown. Consequently, these √PSYCH verbs seem to be Roots modifying a verbalizing element v, not Roots contributing a (result) state, which the analysis reflects. While the √PSYCH Roots always modifies the verbalizing head v, the result state in the change-of-state causatives (as repeated in 368) is contributed by the prefix[85] (see also Roßdeutscher & Kamp 2010; Haider 2013; Roßdeutscher 2014).

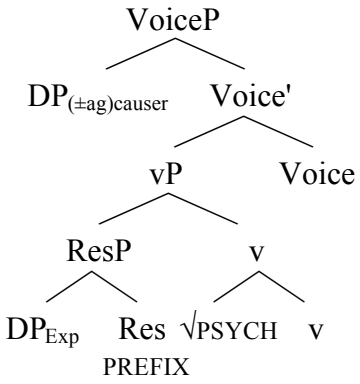
[85] In Embick's (2009) system, this would be an example of the configuration in (i) in which both positions are filled: 1 by a Root, and 2 by a particle/prefix like in verbs such as *de-story, auf-pumpen* 'pump up'.

(i)



(Embick 2009: 11, (6))

(368) Eventive change-of-state causative ObjExp verbs (*ver-ärgern* 'PREFIX-annoy', etc.)



Consequently, the fact that agentive versions of √PSYCH verbs are atelic activities, and do not contain a change-of-state, follows straightforwardly from an analysis of √PSYCH Roots as modifier Roots. The variability of these Roots, which is, however, restricted by aspectual properties, is a further argument for the crucial role of event structure/aspectual information at the syntax-semantics interface.

5.2.3.6. Arguments for a raising analysis

Even though raising analyses for ObjExp verbs have been proposed in a number of accounts with diverse theoretical backgrounds, and in quite different frameworks with different implementations (see Belletti & Rizzi 1988, 2012; Pylkkänen 2000; Nelson 2000; Reinhart 2002; Bennis 2004; Landau 2010; Cheung & Larson 2014; Wiland 2016; Bondaruk et al. 2017b), the dominant view, especially in Distributed Morphology approaches, seems to be rather critical of such analyses, since non-raising analyses are preferred as sufficient to explain the phenomena related to psych verbs (see e.g. Marantz 2013; and the work following Arad 1998b, 2002). Consequently, the burden of proof seems to be with proponents of such raising analyses to justify that they are indeed needed. Therefore, in this last section, I will argue explicitly that a raising analysis for ***stative*** Class II ObjExp verbs cannot only account for all the empirical properties of these verbs as has been shown, but that it is, in fact, necessary to capture the properties of these verbs, especially some peculiar behaviour they show in German and beyond. Evidence from four phenomena in German, 'split stimuli', (non)arbitrary control in subject clause infinitives, weak *wh*-indefinites, and information structure/focus, as well as some phenomena from Italian will be discussed in detail, which provide arguments for a raising analysis for stative Class II ObjExp verbs. Besides, the discussion of these phenomena, which have been mentioned briefly before, will add further evidence to the claim that stative Class II

ObjExp verbs differ from stative Class III ObjExp verbs in a significant way, even though they show many similarities as argued in 5.2.3.4. Only a raising analysis can account for these mixed properties, i.e. the fact that Class II and Class III stative verbs share many properties, which are due to their similar basic configuration of experiencer≫subject matter argument, while they also differ as will be shown, which can be accounted for by the raising of the subject matter argument as described in the previous section.

As discussed in 4.4, causative change-of-state ObjExp verbs, which introduce the causer subject higher than the experiencer object (in Spec,VoiceP, or Spec,vP), allow for 'split stimulus' constructions (see Engelberg 2015), in which the causer and the subject matter, or specification of the causing event are split like in (369a). As has been shown on the basis of Rapp's (1997) argumentation in 4.4.8, it is important to notice that the *mit-/durch*-PP in such sentences is not an instrument-PP but specifies the causing event, which can be shown by the fact that it can be paraphrased by a modal clause. Such constructions with a split specification of the causing event are typical for change-of-state causative verbs (see also Solstad 2009).

(369) a. *Er/ Der Artikel* enttäuschte/ verwunderte mich (*durch seine Unsachlichkeit*).
he/ the article disappointed/PREFIX.puzzle me through his unobjectiveness

b. *Er/Der Artikel* erstaunte mich (*durch seine Unsachlichkeit*).
he/ the article amazed me through his unobjectiveness

c. *Seine Unsachlichkeit* enttäuschte/ erstaunte mich (**durch ihre Heftigkeit*).
his/its unobjectiveness disappointed/ amazed me through its intensity

d. *Er/ Der Artikel* ärgerte/wunderte/freute mich (**durch seine Unsachlichkeit*).
he/ the article annoyed/puzzled/delighted me through his unobjectiveness

Crucially, such 'split stimulus' constructions are only possible as long as the subject can be interpreted to be the causer only, and the subject matter argument is not expressed as the causer itself as in (369c). This is vital for the explanation of the behaviour of stative Class II ObjExp verbs: the stative causative Class II ObjExp verbs do not allow for 'split stimuli' at all (see 369d), because, in these constructions, the subject matter is ***always*** present since it is the causer subject, which has been raised. Consequently, these verbs cannot occur in the 'split stimulus' construction, which provides a first argument for the different status of their raised stative causer subjects, i.e. for the raising analysis.

Secondly, Class II ObjExp verbs show a very interesting behaviour with respect to control in subject clause infinitives, which clearly sets them apart from Class III ObjExp verbs, as already mentioned above. According to the standard view subject control clauses are instances of non-

obligatory control (NOC), while complement clauses trigger obligatory control (OC), as summarized in (370).

(370) Configurational effects on control (Landau 2013: 38, (96))
Complement clauses fall under OC; subject and adjoined (extraposed) clauses fall under NOC.

Landau (2013) observes that there is one exception to this general principle: experiencer-objects of psych verbs which intervene between a controller and an extraposed clause cannot be skipped but impose OC in extraposed clauses, while non-psych verbs allow NOC as (371) demonstrates.

(371) a. Mary_i thought that it pleased John_j [$\text{PRO}_{*i/j}$ to speak his_j / *her_i mind].
b. Mary_i thought that it helped John_j [$\text{PRO}_{i/j}$ to speak his_j / her_i mind].
c. Mary_i thought that [$\text{PRO}_{i/j}$ to speak his / her mind] would please John_j.
d. Mary_i thought that [$\text{PRO}_{i/j}$ to speak his / her mind] would help John_j.
(Landau 2013: 39, (99))

Crucially, however, "the contrast is neutralized in subject clauses, which allow NOC regardless of the type of matrix predicates" (Landau 2013: 39). This means that the controller in subject clauses should be rather free, it can correspond to one or two long distance antecedents, a discourse participant, or some arbitrary referent, as Landau (2013: 231-232) shows:

(372) a. *Subject-clause (Super-Equi)*
John_i finally realized that [PRO_{i+j} hurting each other] really bothered Sue_j.
b. *Subject-clause (Discourse control*)
Clearly, [PRO confessing my crime] was not something they anticipated.
(Landau 2013: 231-232, (451a-b))

Since "[t]he complement-subject distinction, and its correlation with the OC-NOC distinction, have been widely recognized and analyzed (Lebeaux 1984, Chierchia and Jacobson 1986, Huang 1989, Sag and Pollard 1991, Manzini and Roussou 2000)" as Landau (2013: 39) summarizes, the observations about the behaviour of German Class II and Class III ObjExp verbs appear all the more puzzling: Fanselow (1992, 2000a, 2003b), building on observations

by Sternefeld (1985), and Grewendorf (1989), describes that Class II ObjExp verbs and dative Class III ObjExp verbs differ with respect to arbitrary control readings in subject clauses:

(373) a. PRO_{arb} sich zurückzuziehen würde die $Polizisten_i$ irritieren
to REFL withdraw would the policemen.ACC irritate
'it would irritate the police if one retreated now'

b. PRO_{arb} sich auf sie zuzubewegen würde die $Polizisten_i$ ärgern
REFL towards them to move would the policemen.ACC annoy
'it would annoy the police if one moved towards them'

(Fanselow 2003b: 203-204, (20))

(374) a. PRO GB auswendig vorzutragen würde Manfred nicht beeindrucken.
PRO_{arb} GB by.heart to.present would Manfred.ACC not impress
'To present GB by heart would not impress Manfred.'

b. PRO GB auswendig vorzutragen würde dem Manfred mißlingen.
PRO_i GB by.heart to.present would the.DAT $Manfred_i$ fail
'Manfred would fail to present GB by heart.'

(Fanselow 1992: 288, (25), glosses and translations are mine)

While accusative Class II ObjExp verbs allow for an arbitrary control reading (373/374a), Class III dative ObjExp do not (374b). For Fanselow this difference reflects a difference in the syntactic structure of the two classes of ObjExp verbs, since his explanation for the observed data is that "the PRO argument of an infinitive may be left uncontrolled only if the infinitive fill the structurally highest argument position" (2003b: 203). Consequently, Class II ObjExp verbs have to be verbs with a canonical NOM ≫ ACC base order for him, while Class III ObjExp verbs are not. However, the empirical situation is even more complex, if one takes the stative–nonstative distinction within the group of Class II ObjExp verbs into account. The situation with respect to the Class III ObjExp verbs is straightforward: dative Class III ObjExp do not allow for an arbitrary PRO reading, even if they are subject clauses in an apparent violation of the general principle in (370) separating OC and NOC.

(375) a. $PRO_{i/*arb}$ $Sich_i$ zurückzuziehen würde den $Polizisten_i$ gefallen.
REFL to.withdraw would the.DAT policemen appeal.to

b. $PRO_{i/*arb}$ $Sich_i$ auf sie zuzubewegen würden den $Polizisten_i$ gefallen.
REFL towards them to.move would the.DAT policemen appeal.to

Dative Class III ObjExp require a bound reading even in subject infinitival clauses like in OC complement clauses as (375) shows. This means the subjects of Class III ObjExp verbs behave

structurally completely like objects, i.e. VP-internal arguments which are base-generated lower than the experiencer. This is a further argument that these verbs indeed have DAT≫NOM base orders (see Wurmbrand 2006; and the discussion in 5.2.2.1). Consequently, for these verbs the effect of the intervening experiencer argument (*den Polizisten*) sets in as described by Landau (2013) for extraposed clauses (see 371), and PRO has to be obligatorily controlled by the intervening experiencer argument as (376) shows.

(376) a. [[den Polizisten$_{\mathbf{i}}$ [PRO$_{\mathbf{i}}$ sich zurückzuziehen] gefallen würde]
the.DAT policemen$_{i}$ REFL to.withdraw appeal.to would
b. [[PRO$_{i}$ sich zurückzuziehen]$_2$ würde$_1$ [den Polizisten$_{\mathbf{i}}$ t$_2$ gefallen t$_1$]]

Contrary to that, the situation for stative accusative Class II ObjExp verbs is even more interesting: they allow for ***both*** an arbitrary ***and*** a bound interpretation of PRO as (377) shows.

(377) a. PRO$_{arb/i}$ Sich zurückzuziehen würde die Polizisten$_{i}$ ärgern.
REFL to.withdraw would the.ACC policemen annoy
'It would irritate the police if one retreated now'
b. PRO$_{arb/i}$ Sich auf sie zuzubewegen würde die Polizisten$_{i}$ ärgern.
REFL towards them to.move would the.ACC policemen annoy
'It would annoy the police if one moved towards them'

Sternefeld also points out that the situation is more complex with these verbs, and concludes that "the free choice of reference of PRO as subject of a subject clause can be lexically constrained, if the latter is ***also an object*** (on a 'deeper level', such as D-structure)" (1985: 405, my translation[86], and my emphasis).

This is exactly what seems to be the case: the interesting property of stative Class II ObjExp verbs is that they behave like dative DAT–NOM Class III ObjExp verbs in that they ***can*** have bound interpretation PRO, and like canonical NOM–ACC transitives in that they ***can*** have an arbitrary interpretation[87].

Canonical NOM–ACC transitives, and, crucially, nonstative ObjExp verbs (see 378) must have an arbitrary interpretation (or an interpretation bound by another discourse referent), but they

[86] The German original: "freie Referenzwahl von PRO als Subjekt eines Subjektsatzes kann lexikalisch eingeschränkt werden, wenn letzterer (auf einer 'tieferen Ebene', etwa D-Struktur) ***auch*** Objektsatz ist" (Sternefeld 1985: 405; my emphasis).

[87] Stiebels (2007) claims that ObjExp verbs like *ärgern* 'annoy' impose OC into subject clauses in German, however, on the basis of the data discussed here, and in Sternefeld (1985: 404-405), I agree with Landau (2013: 39, fn. 24) that this seems not to be the correct assessment of the German data, and I follow Fanselow's (2000a, 2003b), and Sternefeld's (1985) assessment of the subject control data.

cannot have an interpretation under which the experiencer argument (*Paul*) binds PRO – exactly as Landau (2013) characterizes non-obligatory control in (372).

(378) a. $PRO_{arb/j/*i}$ sich zurückzuziehen würde $Paul_i$ verärgern.
REFL to.withdraw would Paul.ACC PREFIX.annoy

b. $PRO_{arb/j/*i}$ sich zurückzuziehen würde $Paul_i$ erstaunen.
REFL to.withdraw would Paul.ACC amaze

To conclude, the data from (non)arbitrary control indicate the same as the 'split stimuli' constructions: nonstative ObjExp verbs base-generate their causer subject in a position higher than the experiencer, consequently, there are no effects of an intervening experiencer as opposed to DAT–NOM Class III ObjExp verbs, which base-generate their nominative subjects in a syntactic position below the experiencer. The ***stative*** Class II ObjExp verbs behave as if they had a subject which occupies ***both*** a position lower than the experiencer, therefore, allowing for the bound reading (which is, however, more difficult to get for most speakers), ***and*** position higher than the experiencer, which allows for an arbitrary reading. This behaviour also supports the view that their subjects are raised from the position of the subject matter, which is lower than the experiencer in the syntactic structure, to the vP-internal causer position.

Thirdly, the same phenomenon can be observed with respect to weak *wh*-indefinites as well: in their behaviour with respect to weak *wh*-indefinites, the stative ObjExp verbs also behave as if they had two positions for the non-experiencer argument.

The standard view is that weak *wh*-indefinites do no scramble in German, at least not as individual elements (see Haider 1993; Sabel 2005; among others). Therefore, weak *wh*-indefinites can be used as a test to detect the base order of arguments, since only base order configurations, or scrambling of elements other than the weak *wh*-indefinites are possible (see Pitteroff & Schäfer 2014), as the comparison of the DAT–NOM Class III ObjExp verbs (379b) with canonical transitive NOM–DAT verbs (379a) shows:

(379) a. weil (die Bibel) wem (*die Bibel) geholfen hat.
because the.NOM bible someone.DAT the.NOM bible helped has
'because the bible has helped someone.'

b. weil (das Buch) wem (das Buch) gefallen hat.
because the.NOM book someone.DAT the.NOM book pleased has
'because the book has pleased someone.'

(Pitteroff & Schäfer 2014: 74, (19))

Consequently, sentences like (380b), in which the accusative weak *wh*-indefinite *was* 'anything' precedes the nominative *wer* 'anyone', are ungrammatical for canonical transitive NOM–ACC verbs because the weak *wh*-indefinites do not allow for scrambling.

(380) a. sollte gestern wer was gesagt haben, dann…
should yesterday anyone[.NOM] anything[.ACC] said have, then…

b. *sollte gestern was wer gesagt haben, dann…
'if anyone said anything yesterday'

(Fanselow 2003b: 204, (22))

The behaviour of stative Class II ObjExp verbs is once again puzzling, since "clauses in which an accusative indefinite pronoun precedes a nominative phrase are perfect with psychological predicates such as *ärgern* 'annoy'" (Fanselow 2003b: 204), contrary to canonical NOM–ACC verbs but like for unaccusatives. Yet the stative Class II ObjExp verbs seem to license ***two*** base-order configurations as (381) shows, since the NOM ≫ ACC ordering is also fine (the sentence in (381b) is only slightly worse according to Fanselow, if at all; my assessment is that it is fine, as are other examples such as (381d/f)). The important contrast is the comparison to the canonical NOM–ACC verbs in (380b), for which this order is clearly ungrammatical.

(381) a. sollte gestern wen was geärgert haben, dann…
should yesterday anyone.ACC anything.NOM annoyed have, then

b. (?)sollte gestern was wen geärgert haben, dann…
'if anything annoyed anyone yesterday, then…'

(Fanselow 2003b: 204, (21))

c. sollte gestern wen was gefreut haben, dann…
should yesterday anyone.ACC anything.NOM delighted have then

d. sollte gestern was wen gefreut haben, dann…
should yesterday anyone.NOM anything.ACC delighted have then

e. (Es ist schön,) wenn wen was freut
it is nice if anyone.ACC anything.NOM delights

f. (Es ist schön,) wenn was wen freut
it is nice if anything.NOM anyone.ACC delights

In parallel to the control data, stative Class II ObjExp verbs behave with respect to weak *wh*-indefinites as if they had two base order possibilities available, or could at least 'reconstruct' to them in a way: ACC ≫ NOM as in (381a), and NOM ≫ ACC to license a configuration as in (381b),

given that weak *wh*-indefinites do not scramble. If slight differences between the different order options can be observed at all (for some speakers), they do not point in a unified direction for the two phenomena: for the control data, the arbitrary reading based on a NOM≫ACC order is the preferred option, while with weak *wh*-elements the ordering based on the ACC≫NOM might be the slightly preferred one. Yet this might as well be related to animacy (first) effects.

Fourthly, stative accusative ObjExp verbs show the same ambivalent behaviour with respect to their focus properties, and tests for base order involving information structure/focus. Haider (2000a, 2000b), and Haider & Rosengren (1998, 2003) claim that ACC≫NOM is the base order for all ObjExp verbs. This claim is based on their assessment that sentences like (382a) have wide focus when the nominative in the canonical focus position right before the verb bears stress. Therefore, they argue, the order ACC≫NOM has to be considered to be the base order for all ObjExp verbs.

(382) a. wenn einen Mann ein Stein ärgert
if a.ACC man a stone.NOM annoys

b. wenn ein Stein einen Mann ärgert
if a stone.NOM a.ACC man annoys

(Fanselow 2003b: 226, fn. 15)

Haider/Haider & Rosengren do not base their claim on a broader empirical basis but only give one example sentence with the verb *interessieren* 'interest' (but see also McFadden 2006 on this verb). Yet the judgements are far from clear in general, and opinions are divided. As Fanselow correctly points out, (382b) "might be worse" than (382a) "but the difference is slight, and need not to be perceived by everyone" (2003: 226, fn. 15), which is exactly the result of my assessment of the data as well. Consequently, it seems to be difficult to maintain such a strong claim on this rather vague empirical basis, not least since empirical evidence from corpus, and other experimental studies (see Haupt et al. 2008; Temme & Verhoeven 2016; Ellsiepen & Bader 2018) clearly points in the opposite direction as discussed in 5.2.3.4.

Moreover, another test based on focus properties and scrambling does not indisputably confirm Haider's/Haider & Rosengren's claim either: this test shows that accusative ObjExp verbs do not behave exactly like dative Class III ObjExp verbs, which have a base order of DAT≫NOM, i.e. a subject in a VP-internal position, and always lower than the experiencer object. Lenerz (1977) shows that the acceptable orders of rhematic/focussed dative DPs and nominative topic DPs differ in active and passives sentences, which can be used as a test for base order and scrambling as Pitteroff & Schäfer (2014) point out: while (383) shows that the nominative

obligatorily precedes the dative in active NOM–DAT verbs like *helfen* 'help' in such a focus–topic configuration, the nominative may precede or follow the dative in passives as (384) illustrates. Unaccusative DAT–NOM verbs like *gefallen* 'appeal.to' pattern like passives: the nominative may precede or follow the dative (see 385). The crucial observation this analysis is based upon is that German does not have a general strong EPP-feature on T, and consequently, subjects are not obligatorily moved to Spec,TP in general, but can, in principle, stay in their base-position within the VP, as in passives or unaccusatives (see Haider 1993; 2010; Bayer 2004; Wurmbrand 2006; among others).

(383) Q: Wem hilft heute noch die Bibel?
whom.DAT helps today yet the.NOM bible
'Whom does the bible help these days?'

A: Heute hilft (die Bibel) nur noch dem Gläubigen (*die Bibel).
today helps the.NOM bible only yet the.DAT believer the.NOM bible

(384) Q: Wem wird heute noch das Leben gerettet?
who.DAT becomes today yet the.NOM life saved
'Whose life is saved these days?'

A: Heute wird (das Leben) nur noch dem Versicherten (das Leben)
today becomes the.NOM life only yet the.DAT insured the.NOM life
gerettet
saved
'These days, only the life of insured is saved.'

(385) Q: Wem gefällt heute noch der Klang des Vinyls?
whom.DAT pleases today still the.NOM sound of vinyl

A: Heute gefällt (der Klang des Vinyls) nur noch dem Nostaligker
today pleases the.NOM sound of vinyl only yet the.DAT nostalgic
(der Klang des Vinyls).
the.NOM sound of vinyl
'These days, the sound of vinyl only pleases the nostalgic.'

(Pitteroff & Schäfer 2014: 71-72, (10)-(12))

Lenerz' (1977) explanation of these differences draws on the observation that a focus phrase has a strong tendency to appear towards the end of the middlefield, which is the canonical focus position in German (see Haider 2000a, 2000b), and, consequently, movement of a focussed phrase to the left is ruled out. If the focus phrase is base-generated below the topic (as in 383), scrambling of the focus phrase across the topic results in an unacceptable derived order (see 386a). To the contrary, if the focus phrase is base-generated higher than the topic (as in 384-385), scrambling of the topic across the focus is acceptable (see 386b).

(386) a. base order $A_{[TOP]}$ $B_{[FOC]}$
*derived order $B_{[FOC]}$ $A_{[TOP]}$ $t_{B[FOC]}$
b. base order $A_{[FOC]}$ $B_{[TOP]}$
derived order $B_{[TOP]}$ $A_{[FOC]}$ $t_{B[TOP]}$
(Pitteroff & Schäfer 2014: 72, (13))

Consequently, the sequence $DAT_{[FOC]} \gg NOM_{[TOP]}$ is only possible as non-scrambled base-order, as in unaccusatives and passives, while it is infelicitous in canonical transitive NOM–DAT verbs like (383), which have the base order of $NOM_{[TOP]} \gg DAT_{[FOC]}$, since the necessary scrambling of the $DAT_{[FOC]}$ across the $NOM_{[TOP]}$ to create this configuration is impossible. Therefore, the divergent behaviour of the different groups of verbs with respect to the possibility to license certain derived orders of focus and topic DPs indicates that these verbs have a different base order of arguments.
Canonical transitive NOM–ACC verbs show the same restrictions as NOM–DAT verbs as (387) demonstrates:

(387) Q: Wen schlägt Paul heute noch?
whom.ACC hits Paul.NOM today yet
A: Heute schlägt (Paul) nur noch seinen Vater (*Paul).
heute schlägt Paul.NOM only yet his.ACC father Paul.NOM

Stative accusative ObjExp verbs show a puzzling behaviour in this test as well. They rather pattern like canonical NOM–ACC verbs as (388) shows:

(388) Q: Wen ärgert heute noch der Stau?
whom.ACC annoys today yet the.NOM traffic.jam
A: Heute ärgert (der Stau) nur noch die Anwohner (*/??der
today annoys the.NOM traffic.jam only yet the.ACC residents the.NOM
Stau).
traffic.jam
'These days, the traffic jam only annoys the residents.'

If the stative accusative ObjExp verbs (or, as Haider/Haider & Rosengren claim, all ObjExp verbs) really were ACC–NOM verbs which "project the subject in a VP-internal position that is lower than the object position" (Haider 2000a: 144), they should behave like the DAT–NOM verbs, i.e. both options should be readily available, however, this is clearly not the case. While one might argue about whether and to what degree the second ordering of (388) is

ungrammatical, just (very) bad, or slightly acceptable, it is clearly different from the DAT≫NOM verbs like Class III *gefallen* 'appeal.to' (see 385).
Nonstative ObjExp verbs behave like canonical NOM–ACC transitives:

(389) Q: Wen verärgert heute noch der Stau?
whom.ACC PREFIX.annoys today yet the.NOM traffic.jam
A: Heute verärgert (der Stau) nur noch die Anwohner
today PREFIX.annoys the.NOM traffic.jam only yet the.ACC residents
(*der Stau).
the.NOM traffic.jam

To summarize, contrary to opposing claims, the behaviour of stative ObjExp verbs with respect to focus and information structure properties does not give a clear and unanimous indication that these verbs have an ACC≫NOM base order, but their behaviour in this domain rather falls in line with the other observations about control, weak *wh*-indefinites, and 'split stimuli'.
However, it is worth pointing out that Haider's (1993, 2000a, 2000b) claims that ObjExp verbs have an ACC≫NOM base order is based on a similar basic idea about the nature of the subject constituent of these verbs, which is the foundation of the raising analysis proposed here, yet implemented in the different lexicalist framework of Two-Level Semantics (see Bierwisch 1991). Haider argues that ObjExp verbs have the Semantic Form in (390)[88]:

(390) λxλ**y** [**y** CAUS [x E **y**]]
(Haider 2000a: 144, (25b))

Crucially, the non-experiencer argument (represented by the variable (λ)**y** in (390)) is ***both*** subject matter and cause at the same time, since it binds both variables in the Semantic Form. Consequently, it is both deeper and higher than the experiencer in the semantic form. In Haider's model of 'branching and discharge' this leads to an ACC–NOM base order because the first appearance in the Semantic Form determines the base position in this approach. The argument which is the subject matter and cause of emotion at the same time is, nevertheless, as a result of lexically designated subject selection, the "transitive" subject of these ObjExp verbs, which leads to movement to a Spec-position in English but not in German, as Haider (2000a:

[88] Stiebels (2007: 11, (19)) assumes a similar Semantic Form for verbs like *ärgern* 'annoy':

(i) λx λp CAUSE(p, EXPERIENCE(x, p))

144-145) argues, since he assumes that the German verbal phrase does not contain functional material like *v* (Chomsky 1995), etc., which could attract movement.

Finally, such ambivalent behaviour showing 'mixed properties' as if the subject of stative Class II ObjExp verbs was both lower than the experiencer in some sense and higher than the experiencer at the same time is not only limited to German but can also be observed, for instance, in Italian, as Belletti & Rizzi (2012)[89], and Belletti (2018) report. Class II (*preoccupare* class) verbs and Class III (*piacere* class) verbs also differ significantly in Italian: only *preoccupare* verbs show 'mixed properties' like German stative Class II ObjExp.

Class II *piacere* verbs show the alternation in (391), and, like in German, the experiencer asymmetrically c-commands the nominative argument, since these verbs are DAT–NOM unaccusatives like in German, as Belletti & Rizzi (2012) show.

(391) a. A Gianni piacciono queste notizie. (Italian)
To Gianni like-PL these news

b. Queste notizie piacciono a Gianni.
These news like- PL to Gianni

(Belletti & Rizzi 2012: 133; (10))

Class III ObjExp verbs allow for the word order alternation in (391) exactly because they are truly unaccusative with the structure in (392).

(392) $[_{vP}$ Exp $[v_{exp}$ $[_{VP}$ V Th]]]

(Belletti & Rizzi 2012: 134, (14))

Contrary to that, *preoccupare* Class II verbs show mixed properties: on the one hand, they also exhibit the well-known backward binding[90] and other unaccusative properties (as shown by Belletti & Rizzi 1988, 2012) indicating that their theme is base-generated lower than the experiencer. In this respect, they behave like unaccusative DAT–NOM *piacere* verbs. However, opposed to the dative Class III verbs they do not allow for the alternation in (391) – in that they behave like canonical transitive NOM–ACC verbs (see 393).

[89] Belletti & Rizzi (2012) do not make an explicit distinction between different readings of Class II ObjExp verbs, however, as Landau (2010: 138, ft. 8) points out for Belletti & Rizzi (1988), their analysis can and should be considered to be (implicitly) limited to nonagentive stative ObjExp verbs.

[90] As discussed in section 2.2, following Platzack's (2012) account, the availability of backward binding in a language crucially depends on the properties of the C-T phase, not the verbal phase. Therefore, the asymmetrical c-command relation is a necessary but not a sufficient condition for backward binding. Consequently, languages like Italian show backward binding, while V2-languages like German do not.

(393) a. Queste notizie preoccupano Gianni. (Italian)
'These news worry Gianni.'

b. *Gianni preoccupano queste notizie.
Gianni worry-PL these news
(Belletti & Rizzi 2012: 135, (17))

Belletti & Rizzi (2012) argue that this is the consequence of the fact that *preoccupare* and *piacere* verbs have the same basic configuration, but the theme of *preoccupare* verbs has to move to the subject position obligatorily because they contain 'an element of causation', i.e. additional causative structure, which is represented by v_{caus} in their account (see 394). *Preoccupare* verbs therefore show a similar structure like *fare*-causatives in Italian since they contain a light verb and a small clause. Belletti & Rizzi (2012) also suggest to account for the 'mixed properties' of the stative Class II ObjExp verbs by a raising analysis. Their implementation is based on smuggling (following Collins 2005a, 2005b) via the specifier of a small clause (see 394-395). The theme moves to Spec,v_{caus}P, where it 'picks up the interpretative element of causation', and, finally, moves to the subject position (see also Wiland 2016; Bondaruk et al. 2017b for a similar smuggling analysis for Polish ObjExp verbs).

(394) $[_{vP}\ v_{cause}\ [_{XP}\ X\ [_{vP}\ Exp\ [v_{exp}\ [_{VP}\ [\ V\ Th]]]]]]$

(395) $[_{vP}\ [v_{cause}\ [_{XP}\ [\ V\ Theme]\ X\ [_{vP}\ Exp\ v\ \langle VP\rangle\ ]]$
(Belletti & Rizzi 2012: 135; (18), (19))

Finally, a last argument for the raising analysis comes from the diachrony of the stative causative German ObjExp verbs. The stative causative German ObjExp verbs are among those verbs which formed 'subjectless constructions' in the terminology of von Seefranz-Montag (1983, 1995) in Old and Middle High German. These ObjExp verbs were double object obliques: the experiencer was marked either with accusative, or dative, while the object of emotion could bear genitive, or be a PP, or a (in)finite CP (see 396)[91].

(396) mich wundert eines dinges (Middle High German)
1.SG.ACC puzzles a.GEN thing
(von Seefranz-Montag 1983: 195, (147f), glosses are mine)

[91] Based on Allen (1995), van Gelderen (2014) reports the existence of similar DAT/ACC–GEN ObjExp verb constructions with DAT or ACC experiencer, and GEN stimulus for Old English as well, which then underwent a change from ObjExp to SubjExp verbs, which she attributes to reanalysis processes of little v (see also van Gelderen 2018).

While these 'subjectless constructions' still exist in a very limited number of archaic verbs like *mich hunger/ dürstet/ friert* 'me hungers/ thirsts/ be.cold', etc. (see Doval 2011), most 'subjectless constructions' changed in the course of the development between the 16th and 18th century into subject experiencer verbs, yet some of the verbs also preserved an alternative ObjExp construction in German, however, changing into NOM–ACC verbs (see von Seefranz-Montag 1983: 158-199). These are exactly the √PSYCH verbs such as *wundern* 'puzzle', *ärgern* 'annoy', *ekeln* 'disgust', *freuen* 'delight', etc. Changes to morphological case, i.e. the fact that case endings became indistinctive, are usually considered to be the reason for this development. However, this cannot convince completely for German (see Wegener 1985). This change is more plausibly to be considered a reflex of the syntactic adjustment to the dominant NOM–ACC pattern, as Reis (1985) argues. Crucially, however, these constructions kept the semantics of the 'subjectless constructions', even though they turned into NOM-ACC verbs, as von Seefranz-Montag (1983) highlights. This is exactly what is represented in a decompositional way in the raising analysis[92]. Furthermore, the diachronic data also provide an argument for the assumption that these verbs share the same basic configuration as the dative (Class III ObjExp) verbs, since the dative configuration (represented here by the analysis with a HighAppl following McFadden (2004)) is the typical structure verbs which formerly followed the accusative-genitive pattern as in (396) or (397a) adopted, once this pattern became moribund, as McFadden (2004) points out based on examples like (397) from Wegener (1991).

(397) a. jemanden seines Wunsches gewähren (archaic)
someone.ACC his.GEN wish.GEN grant

b. jemandem seine Bitte gewähren
someone.DAT his.ACC wish grant

The difference to complex ergative √PSYCH verbs is that the latter lack an external argument, therefore the lower subject matter argument is raised to become the subject, which has the discussed consequence for case assignment, but the underlying structure is basically the same. To summarize, the discussion of 'split stimuli', (non)arbitrary control in subject clauses, weak *wh*-indefinites, and focus properties has shown that stative Class II ObjExp verbs are not only different from nonstative ObjExp verbs, but, despite all their similarities, also differ from dative Class III ObjExp verbs. The behaviour of the stative Class II ObjExp verbs with respect to these

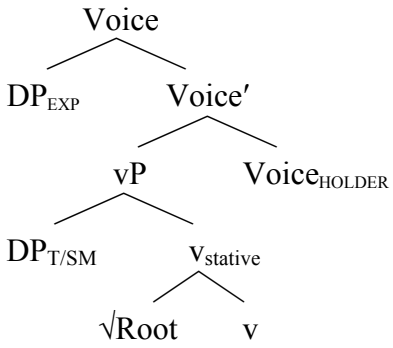
[92] This can also be linked to Kratzer's (1996) brief comment about 'ObjExp verbs like *worry*', for which she suggests an account based on prepostion incorporation into Voice (see fn. 80). Such an incorporation, yet not into Voice but into v as argued above, might be the reanalysis behind that diachronic syntactic change.

phenomena but also cross-linguistically in languages like Italian is somehow puzzling because they show 'mixed properties' as if their subjects are ***both*** lower in the syntactic structure than the experiencer-argument, ***and*** higher. An explanation of the complex control as well as the weak *wh*-indefinites and focus (scrambling) data seems to make it necessary that the subjects of stative ObjExp verbs indeed have two different syntactic positions. This is well in line with the semantic aspects of stative causative verbs, for which the causer subject does not bring about a change of state as in eventive causative verbs. While a thorough account of the phenomena, which are each complex topics in their own right, and therefore cannot be given the due attention and explanation necessary to account for them properly here, has to be left for further research, the important conclusion for the purpose of this study is the following: a raising analysis seems to be best equipped to account for the behaviour observed, which can neither be captured under the assumption that Class II ObjExp are ACC–NOM verbs identical to Class III DAT–NOM ObjExp nor under the assumption that stative Class II ObjExp verbs are canonical NOM–ACC verbs. The behaviour of stative Class II verbs as if they had both orders available gives evidence for the raising construction involved in the derivation of the syntactic structure of these verbs.

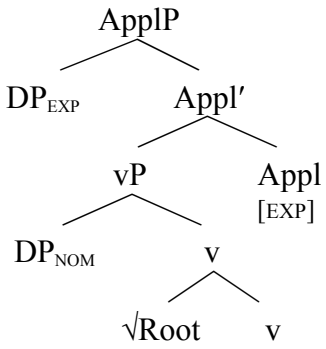
5.3. Summary

Based on the results of the empirical analysis, which has shown that ObjExp verbs are not a homogeneous group neither aspectually nor with respect to the behaviour and grammatical properties of these verbs and their experiencer objects in a number of other domains, it has been argued that a crucial stative versus nonstative distinction has to be made. Besides this crucial event structure difference between stative and nonstative ObjExp verbs, the latter group also splits into two further subgroups depending on the restrictions on verbal passivization, and agentivity of their subjects. Therefore, I have argued that stative and nonstative ObjExp verbs need two different kinds of analyses to be accounted for: a raising analysis in case of the stative Class II ObjExp verbs based on the basic structure of Class III ObjExp verbs, and a nonraising analysis for nonstative ObjExp verbs. These different structures give rise to different interpretations, or 'roles' (in the traditional terminology) of the experiencer. Only 'holder experiencers' in stative ObjExp verbs are in a meaningful way 'experiencers', i.e. arguments that differ structurally from canonical direct objects. This is accounted for by the fact that they are universally introduced by a functional head, Voice in (398), an applicative head as in (399-400).

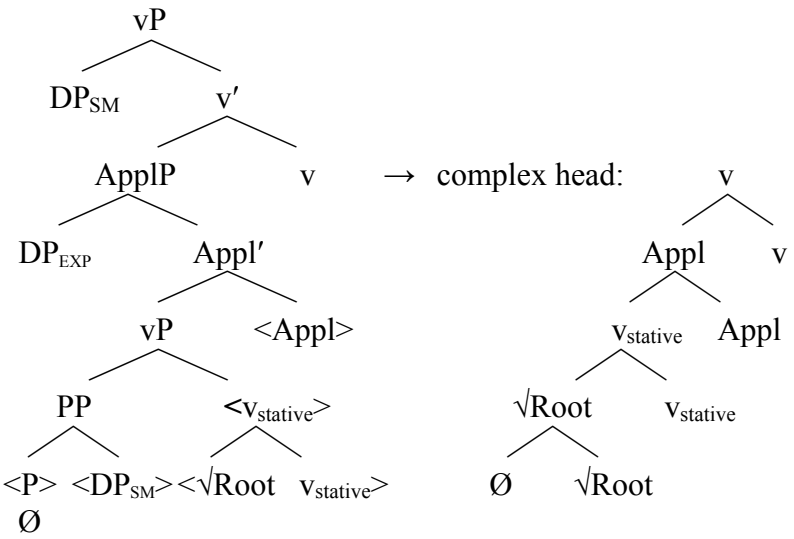
(398) **Class I SubjExp verbs**



(399) **Class III ObjExp verbs**



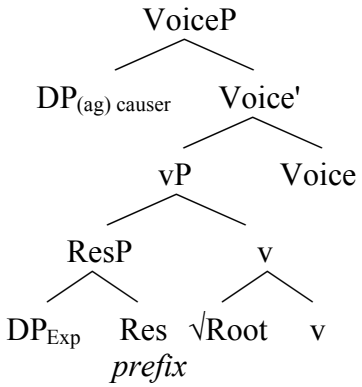
(400) **Stative causative Class II ObjExp verbs**



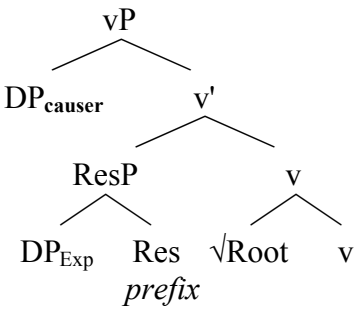
Consequently, 'holder experiencers' in ObjExp verbs do not show the properties of canonical direct objects (adjectival passive, attributive use of the past and present participle, nominalization, topic drop, etc.) but behave like dative indirect goal/benefactive arguments. Stative Class II ObjExp verbs share the same basic structure with the dative Class III ObjExp verbs, which explains why they pattern like datives in many empirical diagnostics, and show

properties which are clearly different from canonical direct objects, and experiencers in nonstative ObjExp verbs. However, since they are causative they contain a further structural layer but, crucially, no external argument. They are nonagentive, non-change-of-state causative verbs. Class II ObjExp verbs are stative causatives with a complex ergative structure, which is accounted for in a raising analysis.

(401) **Class II ObjExp verbs** (accomplishment, possibly agentive)



(402) **Class II ObjExp verbs** (achievement: punctual with result state, nonagentive)



The differences in verbal passivization of psych verbs, which have been observed, and regarded as 'psych properties', can be analysed as a Voice alternation analogous to other transitivity alternations. This can explain why stative SubjExp verbs have verbal passives, even though they are nonagentive, while all stative ObjExp do not passivize because their syntactic structure lacks a Voice layer. Stativity is not the relevant category here neither is the status of the external argument as an agent. It is the presence of an active Voice head with a [+D] feature in SubjExp verbs what makes verbs available for verbal passivization. The same is true for nonstative ObjExp verbs which split into two groups depending on whether they introduce their causer argument in Voice (in this case it can potentially get an agentive interpretation) as opposed to those which introduce it in the vP, which limits the subject to the interpretation of a nonagentive causer (or 'stimulus' in the more traditional term). Change-of-state ObjExp verbs thus pattern like transitive alternates of internally caused change-of-state verbs in that they fall into two

groups with the same characteristics: one group of verbs is similar to externally caused/cause underspecified change-of-state verbs like *open*, and another which shows the restrictions on passivization and agentivity of their subject, which result from the fact that they introduce their causer subject in vP. For ObjExp verbs this distinction corresponds to an aspectual distinction between accomplishment ObjExp verbs, and achievement ObjExp verbs, which are 'punctual with a result state'. Crucially, however, the experiencer argument does not differ in the two different nonstative constructions. All experiencer objects in eventive ObjExp verbs are 'affected argument experiencers', and behave like canonical internal accusative objects in both (potentially agentive) accomplishment-like, and nonagentive achievement-like ObjExp verbs. This means there are three sources of variation within psych verbs as summarized in TABLE 14, which can all be derived from general grammatical principles not peculiar to psych verbs: firstly, the syntactic structure the experiencer is merged with ('holder experiencer' introduced by a functional Voice or Appl head versus 'affected argument experiencer' in a ResP/RootP like a direct object), which corresponds to the distinction between stative and nonstative ObjExp verbs, secondly, the presence versus absence of Voice, and, thirdly, whether verbs are causative or not. For the explanation of 'psych properties' in eventive nonagentive ObjExp verbs, the presence or absence of Voice is the central property conditioning them, since the experiencer arguments in agentive and nonagentive eventive ObjExp verb constructions do not differ in their properties, as has been shown.

TABLE 14: Overview: different types of psych verbs in German

	Voice$_{\{+D\}}$	**no Voice**$_{\{+D\}}$[93]
stative **–change**	SubjExp verbs *sich* √PSYCH alternates	**–causative**: Class III DAT ObjExp verbs **+causative**: √PSYCH Class II ObjExp verbs
	'holder experiencer'	
nonstative **+change**	**+causative**: accomplishment-like Class II ObjExp verbs	**+causative**: achievement-like Class II ObjExp verbs anticausative (*sich*) SubjExp alternates
	'affected argument experiencer' = direct object	

[93] To be more precise, what this means is absence of a thematic Voice$_{\{+D\}}$ head, i.e. a syntactically and semantically transitive external argument. The anticausative *sich* SubjExp alternates contain an expletive Voice$_{\{+D\}}$ following the analysis by Schäfer (2008) as discussed in 4.2.4, which, however, does not assign a thematic role.

Chapter 6 : Conclusions

Thirty years after Belletti & Rizzi's (1988) seminal paper kicked off the debates about psych verbs, many issues concerning these verbs are still highly controversial, hardly anything has been established as a consensus with respect to the analysis, and even more basically the characterization of the properties of ObjExp verbs, which ultimately led to claims that psych verbs simply cannot be accounted for by the grammatical categories used in the study of other non-psych verbs. Many approaches therefore suggest that psych verbs are 'special', and try to trace back this 'specialness' to their experiencer arguments, which is often taken as a given without much discussion. The objective of this thesis was therefore to examine, if, and how German psych verbs, and especially the diverse behaviour they display with respect to passivization, agentivity, and aspectual properties can be accounted for. That is, to examine whether there are significant and meaningful grammatical regularities, which can form the basis for an analysis of these verbs, and how such an analysis can be implemented using categories independently motivated in the grammar. The focus of this study lies on the second problem set of the diverse behaviour of ObjExp verbs, since this still poses an unresolved challenge, while a number of satisfactory solutions have been developed for the first, and initially most famous problem connected to psych verbs, the so-called 'linking problem'. The task was basically two-fold: first to get a clearer, more reliable assessment of the contested empirical properties of these verbs, on which, secondly, an analysis that accounts for these properties can be based upon. A central focalization point for this study is an alternation a group of German psych verbs displays, which has neither been discussed systematically nor exploited for the insights it gives into the grammatical mechanism behind ObjExp verbs so far: based on the same √PSYCH Root, these verbs can form two types of Class II ObjExp verbs, i.e. two groups of ObjExp verbs which mark their experiencer arguments with accusative case: one form consisting of the Root only (which I call √PSYCH verbs), while the other also includes a prefix, therefore labelled PREFIX-√PSYCH verbs. Additionally, they can also form SubjExp alternates on the basis of the √PSYCH with the reflexive *sich*. The discussion in chapter 3 has revealed that none of the approaches to German psych verbs can satisfactorily account for this alternation nor for a number of other empirical properties ObjExp verbs show in general such as differences with respect to adjectival passivization, the attributive use of the past participle, etc.

The empirical analysis in chapter 4 has shown that German ObjExp verbs are not a homogeneous group but fall into different groups of verbs, which differ starkly from each other with respect to their aspectual properties, agentivity restrictions on their subjects, and their

behaviour in other grammatical diagnostics ranging from verbal, and adjectival passivization, attributive use of their participles, 'object drop', split stimuli, 'pronoun zap' to nominalizations. I have shown that a crucial stative versus nonstative distinction has to be made for German ObjExp verbs based on their empirical properties, which reinforces Arad's (1998a, 1998b) claims that ObjExp verbs can have different aspectually distinct readings. This assessment is in line with a number of other recent studies, which have established the same for other languages, so that this seems to represent a cross-linguistically valid observation (see e.g. Fábregas et al. 2017; Bondaruk et al. 2017a, 2017b; Petersen 2016; Cheung & Larson 2014; Landau 2010; Biały 2005; Bennis 2004; Arad 2002; Pylkkänen 2000; Nelson 2000). The fact that these different forms are particularly well to observe in German since they are separated by morphological marking of a prefix constitutes strong support for a decompositional analysis, which assumes that the different forms can be traced back to differences in the functional morphemes, i.e. the syntactic structure, the same Root is merged with. The analysis of √PSYCH and PREFIX-√PSYCH verbs has revealed that the aspectual differences between stative, and nonstative ObjExp verbs coincide with a number of other grammatical differences between these groups of verbs. While PREFIX-√PSYCH verbs, and some other ObjExp verbs pattern in many ways like causative change-of-state verbs, and their 'experiencer' arguments behave like canonical internal direct objects, or 'affected arguments', √PSYCH verbs behave diametrically opposed in all ten diagnostics discussed here. The stative √PSYCH verbs do neither form verbal nor adjectival passives, and their experiencer arguments do not show the properties of direct objects but, on the contrary, behave like datives in many of the diagnostics. Consequently, a clear difference to the PREFIX-√PSYCH verbs can be observed: experiencers of stative √PSYCH verbs are not internal direct objects, they are not 'affected' to the same degree as those of PREFIX-√PSYCH. Analogous to the √PSYCH–PREFIX-√PSYCH alternation many other phenomena related to the diverse behaviour of psych verbs correlate with the different event structure properties of ObjExp verbs. In 4.2, I have shown that German also exhibits the psych causative alternation (Alexiadou & Iordăchioaia 2014b). Crucially, not all verbs which show the morphology underlying the causative alternation participate in it but only those verbs which have an eventive change-of-state reading, while the other forms alternate in a different way. It has been shown (in accordance with other studies on German) that there are clear differences with respect to agentivity restrictions on ObjExp verbs, which can lead to a separation of verbs into '±agentive' and 'weakly/–agentive' ObjExp verbs. However, the discussion of the agentive ObjExp verbs has also led to the conclusion that while such a dichotomous classification based on agentivity differences might be descriptively adequate to some degree, it offers only little

insight for an analysis of ObjExp verbs because many of the properties which are to be explained cross-cut the agentivity divide, and especially the group of '±agentive ObjExp' is far from homogeneous but consists of very different types of verbs. In particular, I have shown that *ärgern* 'annoy', one of the most frequently used examples in the literature, is in fact tricky: in its agentive use with an animate subject it is an activity verb, which has been shown to be clearly different from all other ObjExp verbs, especially since it lacks the change of state, and mental entailment central to ObjExp verbs. In its nonagentive use, *ärgern* is an example of the group of stative √PSYCH ObjExp verbs, which also lack a change of state but denote that a holder of a state is in a certain mental state. These √PSYCH verbs allow us to make an interesting observation about √PSYCH in German: these Roots are different from stative result Roots like e.g. √open because they cannot provide the result state component of causative change-of-state verbs but can only form such verbs with the addition of a prefix. In that like in a number of other domains they behave exactly like 'manner modifier Roots', and contrary to 'result state Roots'. As the example of agentive *ärgern*, and other agentive *sich* √PSYCH SubjExp verbs discussed in 4.2.4 has shown, √PSYCH Roots can modify the verbalizing head v introducing an atelic event, either in statives, or activities. Consequently, German √PSYCH raise a number of questions for strict views about manner–result complementarity of Roots.

I have shown that the crucial defining characteristic of all other Class II ObjExp verbs – except for the stative √PSYCH verbs – is that they denote a change of state in the experiencer. Nonstative ObjExp are causative change-of-state verbs, which describe the coming about, or bringing about of a mental result state. In that they resemble other causative change-of-state verbs, and have been analysed accordingly. Conceptually, I argue for a characterization of eventive ObjExp psych verbs as being in-between externally caused and internally caused change-of-state verbs: they pattern either like change-of-state accomplishments, or like achievements, i.e. they are 'punctual with result state', but, crucially, most ObjExp verbs do not denote states but a kind of inchoativity, or change of state (at least 'under a broader notion').

Because of the empirical differences discussed in chapter 4, I have argued that structural differences exist between stative and nonstative ObjExp verbs, and consequently, two different kinds of analyses are needed to represent these differences appropriately. While the analysis for the nonstative ObjExp verbs follows the analyses for causative change-of-state verbs, the group of stative ObjExp verbs needs a different kind of analysis. Based on semantic and syntactic arguments, I argue that these stative Class II ObjExp are both stative and causative, as has been claimed mostly on semantic grounds before (see Rapp 1997; Pylkkänen 2000; Biały 2005; Rothmayr 2009). The combination of these two properties poses a challenge for almost all

(syntactic) accounts, since causativity is often equated with change of state in many analyses. I have argued that one can account for these verbs in a decompositional analysis, which resembles in its basic syntactic configuration what has traditionally been called 'periphrastic causatives', however, with a null spell-out of the causative light verb. These verbs are stative causative verbs with a 'complex ergative' (Bennis 2004) structure, which is implemented by a raising analysis, in which the lower argument, the subject matter, or content of emotion, is raised above the experiencer to become the stative causer. Stative causation is semantically different from change-of-state causation because it does not contain a causing event bringing about a change of state but describes the simultaneous causation of a state by another state. Because of this temporal co-existence the two eventualities are co-identified. In 5.2.3.6, I present a number of peculiar properties of these verbs which can be best explained by such a raising analysis.

In conclusion, I argue that the irreconcilable differences, which have led to the cacophonic confusion in the debate about ObjExp verbs, and the fact that hardly any satisfactory consensus about the description, classification, and analysis of psych verbs could be reached, both in German as well as cross-linguistically, are not due to the 'specialness' of these verbs but are due to the heterogeneity of ObjExp verbs. In other words, the verbs usually referred to as 'psych verbs', or 'ObjExp verbs' do not constitute a coherent group of verbs. Consequently, approaches trying to explain the behaviour of ObjExp verbs as ***one*** group of verbs, inevitably, have to fail since they try to do something impossible: to account for the behaviour of quite different verbs, which belong to different groups of verbs as if they formed one group of verbs. This explains the starkly divergent proposals made in the literature for the description of the empirical properties of ObjExp verbs, their classification, and analysis. Many of the claims are right – but only for a certain group of ObjExp verbs, while they are wrong for other ObjExp verbs which belong to a different group of verbs with different properties as the discussion of the empirical properties has shown. The crucial insight is that ObjExp verbs are not as homogeneous a group as often implicitly or explicitly assumed but fall into different groups of verbs, which share many properties with other well-known groups of verbs.

Consequently, the proposal made in this thesis is, in a nutshell, that in parallel to Pesetsky's (1995) claim that the non-experiencer arguments in psych verbs are not uniform but have to be distinguished into the thematic roles of Causer and Object of Emotion, a similar distinction has to be made with respect to the experiencer argument as well. Different 'roles' in the traditional terminology have also been lumped together under what is usually referred to as 'experiencer' in psych verbs. Consequently, different types of 'experiencer' arguments have to be

distinguished as well, since experiencer arguments do not constitute a homogeneous group (see also Wechsler 1995) but can be licensed in two different syntactic configurations. While all experiencer arguments share the core semantic characteristic that they denote sentient participants which are associated with a mental state, the grammatical properties of 'experiencer' arguments should neither be tied to nor be derived from this semantic core. The strongest argument for this comes from the fact that even though the 'experiencer' argument in agentive ObjExp verbs is commonly considered not to exhibit any of the 'special' properties of experiencers, or 'psych properties' (see Arad 1998a; Landau 2010), it, nevertheless, has to be semantically interpreted as an 'experiencer', i.e. it must be identified as an individual associated with a certain mental state in the context of 'psych verbs'. Since this part of the meaning is present in agentive uses as well, it cannot be the source which is responsible for the 'peculiar' behaviour and 'psych properties' because these properties are crucially not present in the agentive versions, which are uniformly assumed to be standard transitive verbs (see Alexiadou & Anagnostopoulou 2018). Moreover, the great diversity 'psych verbs' show in many empirical domains highlight that 'being a psych verb' cannot be an adequate explanation for these properties, since they are simply too diverse. In other words, this semantic part of being an 'experiencer' is not grammatically relevant as such in a syntactic sense. What is relevant are other grammatical factors, which also condition the behaviour of non-psych verbs such as the presence or absence of Voice as well as the presence (or entailment) versus absence of change as the most important factors. What has been uniformly labelled as 'experiencer' in psych verbs actually split into at least two different types of arguments, which could be labelled 'holder experiencer', and 'affected argument experiencer'. The differences are crucially conditioned by the aspectual properties of the verbs, or rather the syntactic structures the arguments are merged with, not by any special property of these arguments, or 'thematic roles' itself: only 'holder experiencers' in stative psych verbs are 'experiencers' in a syntactically meaningful way, i.e. only they differ from canonical internal direct objects of change-of-state verbs. I follow the important insight by Landau (2010) that these 'holder experiencers' of stative ObjExp verbs have a syntactic form which is different from canonical direct objects. In my analysis, this follows because they are introduced as holder of a state by a functional projection 'externally' to the Root/verb. 'Holder experiencers' in stative verbs always occur together with objects of emotion, i.e. subject matter, or target of emotion arguments. 'Experiencers' in nonstative psych verbs always pair up with a causer argument, and are in fact in many ways affected direct objects. These objects undergo a change of state (at least under 'a broader notion'), which turns the objects into affected arguments (see Beavers 2011). This distinction can be directly

connected to insights from Dowty's (1991) Proto-Role approach as well, especially the observation that the (entailment of) change of state is crucial: in the nonstative verbs, the 'affected argument experiencer' undergoes change of state, and, thus, has one Proto-Patient entailment more than the non-experiencer causer argument, which turns it into a 'better patient' in Dowty's terms, and, consequently, a canonical direct object. On the contrary, in stative psych verbs, the 'holder experiencer' lacks the additional Proto-Patient property since it does not undergo change, both arguments have an 'equal claim to subjecthood' for Dowty. This is represented in the syntactic structure: the objects are not canonical internal objects but their syntactic structure is those of datives, which is the typical way less affected, more 'subject-like objects' are expressed in German (see Wegener 1985). Semantically the experiencer in stative ObjExp verbs is a holder of a state, and less affected than in the nonstative psych verbs, more like a possessor or beneficiary of the state. Following such an analysis, all stative psych verb, SubjExp as well as ObjExp verbs, share a common basic configuration of a stative vP plus an argument-introducing functional head, and can thus be unified under one type of stative construction, which is also similar to proposed general analyses for stative verbs, such as e.g. in Ramchand (2008).

Consequently, the view that psych verbs are a 'special', or idiosyncratic class of verbs also has to be rejected. What is characteristic for them is rather that they are often ambiguous between different regular patterns, such as the causative–anticausative alternation, the prefix–non-prefix alternation with √PSYCH verbs in German, etc., as has been shown. If appropriately classified, psych verbs, and the status of their arguments are subject to general grammatical properties like (the entailment, or presence of) change of state, which can explain most of their behaviour. In other words, pace Klein & Kutscher (2005), Grafmiller (2013), and others, it has to be concluded that significant grammatical patterns can be observed: while discourse-pragmatics, and conceptual knowledge certainly play a role in the different frequencies with which certain psych verb forms are used, there is also a grammatical level at which these do not directly interfere but where general grammatical principles regulate the availability of the different forms, quite similar to non-psych verbs. A consequence of this analysis is further that while I use the common terminology of 'psych verbs', and 'experiencers', I follow Bennis (2004), and Petersen (2016) in the assessment that these labels are of descriptive nature only but are not assumed to carry much importance of their own for the grammar, i.e. the syntactic processes. What matters are differences in the syntactic structure which lead to the differences between 'holder experiencer', and 'affected argument experiencer' arguments because of the position these arguments occupy in the syntactic structure respectively.

In terms of recent theoretical debates on psych verbs this means that I build on, and confirm Landau's (2010) central claim (pace Grafmiller (2013) *inter alia*) that experiencers in nonagentive stative ObjExp verbs are of a different form. However, crucially, Landau's claims have to be restricted to *stative* ObjExp verbs only as the study of German ObjExp verbs has evinced. Data from different diagnostics run in 4.4 show that experiencers in nonagentive eventive ObjExp verbs behave almost identical to experiencers in agentive accomplishment-like ObjExp verbs with respect to their syntactic status. In other words, the tests have revealed that these experiencer arguments do not exhibit oblique or PP-like behaviour, which confirms Grafmiller's (2013) empirical claims made for English pace Landau's account in this respect. However, the *stative* ObjExp verbs do show the oblique, or PP-like behaviour similar to dative Class III ObjExp verbs as predicted by Landau. This means the crucial separation is an aspectual one, not one based on agentivity, as the discussion of verbal passivization in German proves. Findings from other languages like e.g. Spanish (see Fábregas et al. 2017: 34, fn. 4) point in the same direction. Furthermore, I have argued that the reason for the different behaviour of 'holder experiencers' in stative ObjExp verbs is not a special $Ø_{\Psi}$, or their inherent case marking but the syntactic structure they occur in.

Consequently, there are two sources of differences between psych verbs, which both have to be taken into account to explain the diverse behaviour observed with psych verbs: on the one hand psych verbs differ with respect to the nature of their 'experiencer' argument in the way described above depending on whether it is a 'holder experiencer', or an 'affected argument experiencer'. This difference arises from differences in the syntactic structure of stative psych verbs as opposed to nonstative change-of-state psych verbs, and can be related to general principles of argument structure like (entailment of) change of state, and affectedness. The second source of variation among psych verbs is another general principle well-known in the study of argument structure: the presence or absence of a Voice, for ObjExp verbs this means whether their external argument/causer is introduced in VoiceP, or vP. The existence of 'psych properties' can be explained under such an approach as resulting from the interplay of these general principles like presence or absence of Voice in combination with the mechanisms of phase theory, and the distribution of subject properties in the way Alexiadou & Anangostopoulou (2018) account for clitic-doubling in Greek.

The strategy I propose for the analysis of psych verbs therefore consists of two steps: firstly, the verbs have to be separated into the different groups they belong to according to their empirical properties. Then, secondly, an appropriate analysis can be provided for the different groups, which can explain the empirical properties observed. In other words, this results in

different analyses for different groups of verbs instead of one analysis for all psych verbs, or all ObjExp verbs. It is worth highlighting again: the crucial insight for a successful attempt to analyse psych verbs is that they do not exist as a homogeneous group, the assumption that experiencer arguments represent a more or less uniform and coherent group is the real reason behind the lack of consensus in the literature, and the many controversies surrounding these verbs. Psych verbs simply are not one coherent group of verbs but belong to different groups of verbs. 'Experiencers' are not homogeneous nor are ObjExp verbs, and bearing an 'experiencer' argument does not serve as a common denominator to unify these verbs. Consequently, the conclusion has to be that 'psych verbs', and 'experiencer' are nothing but descriptive labels, which lack direct grammatical relevance.

Widening the perspective beyond the debates on psych verbs, these verbs also offer a number of interesting insights from a general perspective: the analysis I argue for here supports a layering approach to external argument introduction: the analysis of different groups of ObjExp verbs has shown that causer arguments can be introduced both in VoiceP, or vP, as has been argued for transitive alternates of internally caused change-of-state verbs. Besides, ObjExp verbs provide further evidence that the external argument roles of agent and causer should not be unified but have to be kept separate for several (syntactic as well as semantic) reasons. Stative Class II ObjExp verbs furthermore constitute a case of stative causative verbs, which shows that stativity and causation are not incompatible, and add an interesting case to the ongoing debate about the nature, and form of stative predicates.

As argued above what has failed is an approach to explain the behaviour of the whole group of psych verbs, or ObjExp verbs defined by the semantic criterion of their shared theta role of 'experiencer'. This adds further evidence to critical questions about the problematic status of theta roles as central concepts in the theory of argument structure. The term 'experiencer' as it is usually used is rather dubious, since it seems not to provide a lot of insights for characterization of these verbs as argued above.

A perspective distinguishing between different aspectually conditioned readings of ObjExp verbs(, and a decompositional approach that can explain theoretically how they are derived) is not only necessary for a correct description and analysis of psych verbs, but it also opens up interesting perspectives for further research in a number of areas: firstly, it offers a promising starting point for a general exploration and theory of the syntax-lexicon, and syntax-semantics interface in general. Moreover, especially with respect to the contentious debate about word order of German Class II ObjExp verbs and beyond, a more nuanced classification of the verbs might help to come closer to valid generalizations, and consensual conclusions.

A number of issues which came up along the way in the study of psych verbs seem to be important topics in their own right, and, therefore, call for more thorough investigation, and explanation in further research: the split stimulus phenomena as well as the 'object drop' constructions for ObjExp verbs and other causative change-of-state verbs, and especially the subject control data, since the latter pose serious challenges for received wisdom, and established theories of control. Finally, all the observed differences, which have been described here in a more qualitative way, in a kind of multiple case studies, need testing on a broader empirical basis to evaluate the claims, and generalizations. On the other hand, the insights provided in this study might also inform some aspects of the quantitative experimental work in that they provide a better understanding of some of the properties of these verbs, which are often used as stimuli, and, thus, influence the results of experimental work. Furthermore, taking into account the differences between the different 'psych verb' classes might help to clarify, and better understand some of the controversial and conflicting empirical findings. Since a number of recent studies have reached very similar conclusions about psych verbs in other languages, broader and deeper cross-linguistic comparison on the basis of these findings seems to offer a fruitful basis for further research in order to come to a better understanding of the general properties of 'psych verbs', and potential language-specific variation in this domain.

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